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# THE Blue Jay

Vol. XVI, No. 4

DECEMBER, 1958



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**Trouble**

Photo by R. W. Fyfe

Published quarterly by  
THE SASKATCHEWAN NATURAL HISTORY SOCIETY

Membership, including **Blue Jay**, one dollar yearly



# BLUE JAY CHATTER

## GUIDE TO THE MAMMALS OF SASKATCHEWAN

Our society's main achievement in 1958 beyond the printing of the **Blue Jay** and the happy and successful meetings at Emma Lake and Saskatoon was the printing of our first special publication. Harvey Beck's **Guide to the Mammals of Saskatchewan** is the first bulletin identifying all of our mammals and giving the known distribution of each one of them. Every member of our society, and every school and every home library in Saskatchewan should have a copy.

In 1959 we hope to continue the series of special publications by printing two or three local bird lists. The first of these will be **Birds of the Qu'Appelle** by our new president, Manley Callin. We are anxious to have these bird bulletins in print as soon as possible, since the A.O.U. will be holding its annual meeting and field trips in Saskatchewan in 1959.

Printing the **Guide to the Mammals of Saskatchewan** was a big venture for our society. Printing costs alone exceed \$1,000.00. Although we are selling the bulletin for 50¢, it will be many years before we have a complete return on our investment. In 1959 we shall need large amounts of additional capital to publish the projected regional bird lists. If we are going to print special publications we shall need the help of every member. You may help in two ways. First, of course, you can renew your membership promptly and help gain new members for the society. Secondly, because our need is so immediate, we should like to appeal to the membership for donations to support this special project. In making a donation you will be making a very real contribution to conservation in our province. G.F.L.

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## A.O.U. MEETS IN REGINA — AUGUST, 1959

Ornithologists, just plain bird-watchers and society members as a whole should plan now to attend this important event. For five days during the last week of August next year ornithologists from all over North America and probably from several foreign nations will convene in Regina at the Saskatchewan Museum of Natural History. This will be the seventy-seventh meeting of the American Ornithologists' Union. The A.O.U. is the largest and oldest scientific ornithological society on the continent. Experts in all aspects of ornithology—artists, lecturers, photographers, research scientists—will be on hand to discuss latest discoveries and advances in the study of birds. Most of the famous bird-men of North America have already said they are planning to come to Regina so we can expect a large attendance. Since this is the first time this world-famous organization has ever met in western Canada there is a real opportunity for all concerned to help to make this a successful and memorable meeting.

One need **not** be a member of the A.O.U. in order to attend—all who are interested in birds are urged to set aside the last week of August now—plan to attend! Too scientific? Not so. At the last annual meeting (October 14-19, 1958, New York City) Dr. Ernest Mayr, president of the A.O.U., in the banquet address, stressed the role of the amateur, stating that it is the amateur who has made the most important contribution in the past to ornithology and the amateur can still do so.

We'd like to see as many members as possible in attendance at the Regina meeting. There will be special exhibits, including a display of bird art work by Canadian artists, a photo exhibit, a number of good movies, other entertainment, social activities, and informal field-trips. No doubt the most important aspect for many in western Canada is the opportunity to meet and visit with bird-people from all over North America. Yes, Roger Tory Peterson said he definitely expects to come! R.W.N.

# The Blue Jay

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## The President's Page

By **E. M. Callin**, President of the Saskatchewan Natural History Society



E. M. Callin

Photo by R. W. Fyfe

It is interesting to note how many members of natural history groups became interested in nature at a tender age. It would be a reasonable guess that a large majority of our own group became interested while in their teens and notable among them are our immediate past president, Frank Roy of Saskatoon, and another past president, Dr. Stuart Houston of Yorkton.

Fortunate indeed is the boy who is born and raised in the park-land or on the prairie farm. Removed from the all-too-frequent pressures and materialism of urban life, mother nature is his incubator and playground. He is continuously face to face with the wonders of nature. Thus it was that many years ago a couple of teen-age boys (my twin brother and myself) came upon a nest of the beautiful Rose-breasted Grosbeak in a heavily timbered marshy area on our farm near the Qu'Appelle Valley. This incident sparked an interest that has continued for 33 years and has not yet ceased to grow.

The young mind is much more receptive than the older mind and unquestionably nature study can be a most potent force for good. How could anyone be sacrilegious who has a genuine appreciation of the wonders of nature? But our aims of appreciation and conservation cannot possibly be achieved unless we reach enough young minds. Babe Ruth once said that if we could get enough baseball bats in use we would have no wars. Possibly we could also say that if we had enough binoculars, telescopes, microscopes, butterfly nets and bird books in use throughout the world we would have no wars.

We were all tremendously impressed with Jack Livingston and his message at the annual meeting at Saskatoon. As he stated: "for every person who is genuinely interested in conservation there are 1,000 who couldn't care less, and the only hope lies in conservation education." In other words, we need "education—not legislation." Undoubtedly we need legislation for the



more "rugged" individualists, but the ultimate success of conservation depends upon reaching the children—the citizens of to-morrow. The law may inform the hunter that he should kill for food only but, unless he understands and appreciates the essential need for conservation, there will never be enough law enforcement agencies to ensure that he does not indulge in wanton killing.

Mr. Livingston cited the case of one of the eastern states of the United States which had put a bounty on one species of hawk, the Goshawk. As a result of this bounty, 9,000 hawks were shot in a single year, but only one solitary specimen turned out to be a Goshawk. It is hardly necessary to point out that 9,000 hawks could do a terrific job of rodent control. In marked contrast, many states in the United States and several provinces in Canada have taken steps to protect hawks, owls and eagles from persecution.

Another case of senseless slaughter has been cited by Gregory Clark. A natural history group in a small city in eastern Canada made a survey of one half mile of beach near their city and collected the following birds which had all been shot: 25 Red-

backed Sandpipers, 10 Pectoral Sandpipers, 2 Killdeer, 1 Long-eared Owl, 1 Sanderling, 8 Black-bellied Plovers, 25 Horned Grebes, 2 Herring Gulls, 3 Ring-billed Gulls, 1 Bonaparte's Gull, 1 Great Blue Heron, 30 Red-breasted Mergansers, 1 Hooded Merganser.

One could quote and write volumes about the essential balance and interdependence between plant, animal, bird, insect and human life. The inevitable conclusion is that our wildlife is a precious heritage both from an economic and an aesthetic point of view. One of our responsibilities is to seek the most practical approach to securing more general appreciation and understanding of that heritage. Our own Saskatchewan Natural History Society has put considerable effort into placing our publication the **Blue Jay** into as many schools as possible. Possibly we should also be making some inquiry as to how effectively conservation is being taught in the various school grades.

It is said that the best things in life are free. How true this is, and one must hope that we do not pay the price of plundering our inheritance.

---

## THE JAYS

It was a miracle  
Vouchsafed to none but me;  
I watched four jays fly down  
Into an almond tree;  
They tossed its twigs about—  
Flew in—flew out.

The little rose-crowned tree  
Snowed petals and shocked sight  
With flashes of cobalt fire  
And gleams of indigo light;  
For an instant, lovely past words,  
It was a bower of birds.

Then they were gone; but I  
Having seen it once, can raise  
In the mind's eye at will  
The tree that burned with jays—  
The tree whose blossomings  
Were petals and heaven-blue wings.

AUDREY ALEXANDRA BROWN

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the author).



# On The Trail of Southesk

By Rose McLaughlin, Indian Head



Ninety-nine years ago a young Scottish lord set out on a hunting trip into the Canadian Northwest, planning to go as far as the elbow of the South Saskatchewan river, but in the end penetrating the outer bastions of the Rockies. It was in the spring of 1859 that the Earl of Southesk, weary of civilization, ailing in health, and, who knows, maybe crossed in love, made his way in the august company of Sir George Simpson, then governor of the Hudson Bay Company, from Montreal to Fort Garry where he equipped a party of seven men for his memorable trek, including among his supplies a volume of Shakespeare, a copy of Richardson's **Fauna Boreali Americana**, and an india rubber bathtub.

Taking the Winnipeg-Old Wives' trail, Southesk's party duly camped on the night of July 1 at Great Creek, now known as Red Fox coulee, some ten miles southeast of the present town of Indian Head; and on the following day travelled via Deep Lake and the Squirrel Hills—well-known landmarks both—to the old Qu'Appelle Fort where they made camp for the week-end of July 2-3.

Thus it was that a tour of the historic sites and trails of the district of Indian Head, organized by a committee in the Squirrel Hills S.D. and conducted by Carl Pearen, long-time

resident there, should inevitably end in a fascinating jaunt into the past along the trail of Southesk.

Foregathering at the pavilion of the forestry farm at 10 a.m., Saturday, October 4, local people and interested guests from Regina, Moose Jaw, Yorkton and smaller towns nearby spent an informal hour browsing and chatting over Mr. Pearen's collection of maps. The morning ended with a tour of points of interest closer in—the cairn to the Territorial Grain Growers, the bishop's court built by Lord Brassey during his brief but gigantic farm venture in the eighties, the Experimental Farm with its marker to commemorate the work of the first superintendent, Angus McKay.

But all this was prelude, as evidenced by the augmented crowd which signed the register after lunch. Names of outstanding interest included Mrs. Clipsham and Mrs. Young of Regina, secretary and treasurer respectively of the Saskatchewan historical and folklore society; George McLeod of Fort Qu'Appelle who collects Indian folklore and folksongs; and Bruce Knox, president of the Regina natural history society. Upwards of 50 adults and a score or more of youngsters were packed into the cars which started out after a briefing by Mr. Pearen on the route to be followed.

Ten miles and a stubble field away the motorcade lolloped to a halt on the brow of Red Fox coulee where Southesk's party camped on that long-ago first of July. Mr. Pearen pointed out to us the shadowy trace of the old trail running across the cultivated floor of the broad valley and up the grassy slope beyond.

Driving west for several miles we came to Deep Lake, Southesk's "Lake of the Valley," which they reached just after breakfast on the second. Southesk, who had an eye for beauty, writes of the virgin prairie in this region:

"Flowers of the gayest colors enlivened the landscape—small tiger



lilies and roses, blue-bells and white strawberry blossoms. Sometimes acres and acres were covered with intermingled masses of the orange lily and the pendulous blue-bell, the whole of them so short of stem that the glory of the flowers combined with the rich greenness of their leaves and it seemed as if a vast oriental carpet had been thrown upon the plain."

To us the autumn scene set amid fruitful fields was equally lovely. The gold of wild poplars on the slopes of the ravines mingled with the richer tints of chokecherry, saskatoon and dogwood, the leaves of the brier rose glowed jewel-like against the sun, and right below us, by the water's edge lay a scrap of pasture, vividly, tenderly green. The lake's surface, dark and smooth as polished wood, mirrored floating ducks and flying gulls and somberly reflected the glory of the hillsides. As if at a curtain call, and to the great delight of the children, two deer appeared, running down into the ravine and losing themselves among the bushes. (These were the white-tailed deer or jumper and not the cabree or pronghorned antelope which Southesk encountered in this region.)

Following, literally, the trail of Southesk we skirted the lake, pausing at the north end where, 75 years ago, a water wheel lifted water from the lake into a creek which emptied into the C.P.R. dam some miles to the north. Continuing west towards the Squirrel Hills we paused twice on the way—once by a crumbling stone foundation which is all that remains of St. Chad's Anglican Church built on this trail in the eighties, and once at Sunny South, an old stone school built in 1889 and still in use. (It was here that we saw a flock of migrating crows following trails far more ancient than ours, no doubt.)

We reached the summit of the Squirrel Hills by a long, rough drive through bluff, unbroken pasture, our cars in their unwonted surroundings looking like lumbering prehistoric monsters. How lightly Southesk must have skimmed these slopes on his tough little pony, Wawpooss! One sees him in fancy against the skyline in his fringed buckskin shirt and high white American hat, gazing at

"an extensive view over a level prairie bounded by a stretch of woodland in the distance. No life was visible except a solitary wolf—or fox—running across the prairie."

From this hilltop oldtimer Will Liggett whose farm lies one mile east pointed out to us the vestiges of the early trail, here through a field, there through a gap in the poplars, and drew our attention also to the region of swamps and springs just northeast of us whence Indian Head gets its excellent water supply. Mr. Pearen explained that the pioneer trails followed these water holes.

Here Southesk's diary reads, "We halted for dinner not far from the Qu'Appelle Fort," and Mr. Pearen now took us to a field a mile or more north of the Squirrel Hills which he believes to be the site of that fort, which was in use from 1855 to 1864. Evidence of occupation has been found here, though not as yet the abundance of chimney clay and foundations which mark a site some miles further on that is more commonly held to be the location of the Qu'Appelle Fort.

This second site we visited too, on rich farm land owned by the Leibel brothers, and near the "long point" of Little Long Lake where the Old Wives and Wood Mountain trails cross. Mr. Pearen identifies this site with the fort of "certain free traders" which Southesk writes of as operating somewhere in this vicinity.

Be the Qu'Appelle Fort where it may, Southesk's party camped there over Sunday, visiting the superintendent, Mr. Cardinal, and entertaining some wandering Objiways. Sunday evening the earl sat in the door of his tent watching the splendor of the sunset and reading "Troilus and Cressida."

Monday morning they were on their way again. One pictures them, in Southesk's words, "topping the crest of a low hill, ribbons streaming, guns swaying, whips flashing, gay colors sparkling in the sun—all life, dash, rattle, and glitter. . . ."

And so, reluctantly we took our leave of the gallant party in whose company we had spent a memorable afternoon.



## BRIEF ACCOUNT OF THE STATUS OF THE COMMON RAVEN (*Corvus corax*) IN THE CARROT RIVER VALLEY, 1919-1958

By Maurice Street, Nipawin, Sask.

I remember seeing my first ravens, a single pair, a mile or two south-west of Tisdale, Sask., during the early summer of 1919. Earlier that year my brother, Stanley, had found their nest in a very tall spruce. From this nest he collected one egg to add to his collection of eggs started in England some 10 or more years earlier. (At that time, in England, it was a common practice for school boys to collect birds' eggs as a pastime.) Now this raven's egg, after nearly 40 years, is still in his possession and still in perfect condition. Much larger than the egg of the Common Crow, it is very similar in colour. My brother considered the raven's nest quite a find as the raven was a very rare bird in the Tisdale-Nipawin area then. In fact, it was not until the early 1930's that I saw my next ravens, this time a few miles east of Codette. From then on ravens were seen with increasing frequency, and by the mid 1940's, especially along the Saskatchewan River, on bright clear days in autumn or late fall, numbers could be seen soaring endlessly back and forth over the river, obviously taking advantage of turbulent air currents. In winter their numbers had also increased, especially about the numerous saw-mills just north of the cultivated areas. There they became quite tame, regularly visiting the garbage heaps, apparently with little to fear from the mill-workers, as guns or rifles were not usually permitted in bush camps or mills. Also it is said that a superstition prevails among many bush-workers that to kill a raven brings ill luck.

By 1953, ravens had become one of our more common winter birds, and at Nipawin they began to enter the town in search of garbage scraps or any other tidbit available. In numerous cases, pieces of bread or other food items are fed to the ravens by the citizens. One instance worthy of note: C.P.R. trainmen on an early morning train regularly threw out scraps for the ravens and as many as 40 ravens have been observed near the depot awaiting their breakfast. As many as a dozen or more have been seen at one time perched on telephone or power poles along

First Avenue, Nipawin's main thoroughfare. From the poles, they fly down to the street in search of food, walking about and only reluctantly moving out of the way of traffic—pedestrians or cars.

Many amusing incidents could be told of the raven's adeptness at stealing food from dogs. To cite one instance of this: a raven boldly walked up to a dog chewing on a bone. After watching intently for a moment or two, the raven cleverly faked a peck at the bone several times, until the dog became so aggravated it suddenly made a rush for the bird which started as if to fly away, then turned a complete somersault and snatched up the bone in full flight before the dog could recover from his headlong charge.

A pair of ravens have nested and reared their broods each year since 1953, in bulky nests built in the tops of huge black poplars growing from the bottom of a deep canyon near Nipawin. The nests are built of sticks, some of which are picked up from the ground, and others (to the thickness of a man's finger) snapped off dead trees. They nest early—the three to five young have been observed to leave the nest as early as May 8. The parents are very solicitous in caring for their young and have been observed as still attending and feeding them until as late as mid-August. This summer I observed two adult ravens stealing oat-chop from a hog trough at the farm of Manley Peifer, three miles east of Nipawin, and carrying the food to four full-grown young, perched on a railing nearby.

Last March I saw a raven "dusting" in fine drifted snow, just as a barnyard fowl does in the dust in summer. Crows sometimes gang up on ravens as they do on owls. Maybe crows have a reason for this, as I have cause to suspect the ravens of stealing crows' eggs and young and also the young and eggs of other birds. But all in all, the raven is a beautiful bird in the winter landscape, truly master of the air, and an entertaining one with its seemingly unlimited repertoire of gurgles and croaks and its curious habits. May their numbers not diminish.



## DO EARED GREBES HAVE DUMP NESTS?

By **J. B. Gollop**, Canadian Wildlife Service, Saskatoon

On June 5, 1958, R. A. Lamont of Kindersley and the author examined the 1,600-acre "Redtop Slough", three miles north of Mantario, Saskatchewan. A twelve-foot aluminum car-top boat with an airthrust motor was used for the survey. The slough is divided by a peninsula of land from the north side into two parts, the west section being open and the east section being mostly covered with smartweed (*Polygonum* sp.). The smartweed reached a foot above the water. The water in most of the area examined in the east arm was about 24 inches deep, the maximum depth located being 54 inches.

Colonies of Franklin's Gulls and Eared Grebes were found. A complete census was not attempted but a rough estimate of 1,000 nests of each species could easily be on the conservative side. An examination of twelve Franklin's Gull eggs indicated that the majority were one-third to two-thirds incubated. The more advanced Eared Grebe embryos had considerable feathering.

Several conglomerations of Eared Grebe eggs were noted. These were probably deposited and abandoned by a number of females. Unlike a somewhat similar situation in Redheads there was no nest under the eggs. Instead, they lay on the tangled vegetation between adjacent, ap-

parently normal, nests which were about three feet apart. The eggs had apparently been added to the pile but many had moved down into the tangled vegetation or rolled off into the water. The eggs in two of these pyramid-like dumps were counted. Counting all the eggs above the water, submerged in the vegetation and on the slough bottom in the immediate vicinity for about a foot, 101 eggs were found in the first dumping area and 94 in the second. It is doubtful whether all the eggs were found in either area. The first dump nest was between incubated nests of 3 and 4 eggs in 24 inches of water. The second was surrounded by incubated nests of 5, 6 and 8 eggs in a depth of 21 inches.

The purpose of the trip was to investigate the prospects of Mallards moulting in the area. Possibly 3,000-4,000 flying drakes were seen—Pintails, Mallards and Shovelers being most abundant. A flock of nine, apparently non-breeding, Canada Geese were grazing on a crop on the east shore. Other species noted in numbers and apparently nesting were Redwinged Blackbirds and Yellow-headed Blackbirds, American Coots and American Avocets. There was no evidence of nesting waterfowl except for a Pintail hen acting as though she had a brood.

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## GOLDEN EAGLE NESTING AT BEECHY, SASK.

By **Dave Santy**, Beechy, Sask.

The South Saskatchewan River cuts deep through the Coteau Hills for sixty miles between Saskatchewan Landing and the Beechy ferry. The topography here is rough and rugged for over three miles back from the river on both sides, and these river breaks provide a home for the majestic Golden Eagle.

Although it breeds in this area, the Golden Eagle does not seem to increase in numbers. I do not know of any other bird or animal that preys on it, and in this district eagles are not hunted or shot. It seems that eagles are not prolific breeders. Should the two eggs (the usual number to a nest) hatch out, the

stronger of the two young will likely, in time, kill the other.

The Golden Eagle in this district usually nests on an outstanding peak or in a cleft in the face of a cliff. We have observed several nests throughout the years. Our most recent observation was made on June 29, 1958, with Frank Roy, who hoped to photograph the eagle. We tried to reach the eyrie on the side of an earth cliff in the river breaks south of Beechy. We were able to climb up only to the base of the big structure of sticks and earth. The bird continued throughout to sit on the nest, and hand-clapping and even small lumps of dirt thrown by us and land-



ing on her back failed to budge her. She may have been covering young at the time.

We did not again visit the nest till mid-September when we found it vacated. Some earth had fallen into it from above. I can remember on a former occasion seeing a young bird that had perhaps been crowded out by earth falling into the nest being sheltered and cared for in a suitable shelter of rock at the bottom of the cliff.

As I have intimated, Mr. Roy and myself were unable to see the top of this nest at close quarters but the remains of rabbits were liberally strewn around the top of the hill. This nest has been used regularly for the past five years. Other nests I

have observed close-up had many remains of rabbits, gophers, weasels and carrion and had feathers of grouse and partridge. Eagles seem to have voracious appetites.

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**EDITOR'S NOTE:** Because nesting records for the Golden Eagle in Saskatchewan are rare, Mr. Santy and other readers will be interested in a historical account of the eagle nesting in northern Saskatchewan to be found in the *Annual Report Geological Survey of Canada VIII* (new series), 1895, part D, published 1896. On his 1892 expedition, Joseph Burr Tyrrell had the following note for August 11: "the river (Stone River, now called the Fond du Lac River) turns sharply from the south, around a sandstone hill on the east side of which is a beautiful cliff seventy feet high, where a pair of golden eagles (*Aquila chrysaetos*) have had a nest for a number of years." In his introductory remarks, Tyrrell previously stated that "a large golden eagle was shot beside its nest on a rocky cliff overlooking the Stone River."

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## THE WASCANA CANADA GOOSE PROJECT, 1957-1958

By **Fred G. Bard** and **Fred W. Lahrman**,  
Saskatchewan Museum of Natural History

The unusually fine weather in the winter of 1957-58 contributed to last spring's nesting success in the Wascana Waterfowl Park Goose project. Ninety-four Canada Geese came through the winter. Later the 1957 young left to "summer" away from the sanctuary. These same young returned a few days before the shooting season opened.

Nest building began the first week of April and the first young hatched on May 6. Nineteen pairs of geese brought off 46 young (from 11 nests). Two settings were donated to assist Abernethy and Eston parks. Six nests were destroyed by predators or through interference with the nesting birds. Sitting hens were used only when a goose deserted her nest. The young hatched by hens were introduced into the wild two days later.

Elevated nests like those first used in Colorado experiments were built in an attempt to overcome some of our losses. Of seven elevated nests made only one was used. It would appear that we placed them too close together and that they were much too high. We shall re-locate them this winter.

During the summer three adults died from flying into power lines or from unknown causes. A recent count showed 134 geese still in the park. We expected the birds to migrate this fall as frequent visits

were made to stubble areas outside of the sanctuary, but they are still here (Oct. 31) and appear to be going to remain in the area. So far the sportsmen in the Regina area have recognized the park geese and refrained from shooting them.

Occasionally other geese wander into the sanctuary. Late this fall a White-fronted Goose (*Anser albifrons*) lit among the Canada Geese and gave us an opportunity to observe it at close range.

A meeting of the Waterfowl Park committee will be held in November to hear a park progress report and to discuss utilization, development, and future park plans.

Perhaps the most serious problem confronting our park is that of **fluctuating water levels** and **marginal shoreline changes** due to development through city expansion. Every growing city has similar problems, but Regina's is unique. The Waterfowl Park is an important part of our parks system and our needs must be presented to those responsible for town planning in order to familiarize the various departments with our needs.

In the Waterfowl Park this year it was encouraging to note that after gravel was placed on Tern Island (to help build up and maintain this area) Common Terns returned to nest here. It's a small beginning but very encouraging.



# Nature's Osteopathy

By **Lawrence Ostoforoff**, Saskatchewan Museum of Natural History, Regina



Burrowing Owl.



Sketch by Lawrence Ostoforoff

On September 28, 1958 a Burrowing Owl (*Speotyto cunicularia*) casualty was picked up on highway No. 1 near Pilot Butte by W. Nielsen, staff member of the Saskatchewan Museum. Upon examining the specimen we found that its right leg had been broken but had healed into a nearly natural position (see sketch). Note that although the bone is not properly aligned, it healed in such a way that the toes still face forward.

Similar cases of natural healing have been observed by F. W. Lahrman of the Saskatchewan Museum. A Western Willet (*Catoptrophorus semipalmatus*) was observed to have one wing broken and dangling. Approximately one month later the bird was seen to fly perfectly.

In his field notes, Mr. Lahrman writes about a Canada Goose (*Branta canadensis*) at the Wascana Sanctuary. August 14, 1954, "Left tibia broken — was able to swim and move about on land by hopping on one foot." August 29, "Bearing some weight on left foot but limps while walking." September 13 (32 days after fracture), "Completely healed and in natural position."

While doing taxidermy at the Museum I have noticed in several cases that birds' bones had been broken and amazingly healed in natural position while the bird undoubtedly was trying to use the limb. From this information one can conclude that if a bone is broken (tendons and veins still being intact) the pieces will often knit together quickly and in a natural position.

## SASKATCHEWAN NESTING RECORDS OF THE COOPER'S HAWK

Compiled by **Dr. Stuart Houston**, Yorkton.

The Cooper's Hawk was listed as "hypothetical" in Mitchell's "Birds of Saskatchewan" in 1924. The fifth edition of the A.O.U. Check-list in 1957 failed to include Saskatchewan

in the breeding range of this species. Both of these publications overlooked the records of Thomas Blakiston who found a nest with two eggs and collected the adult female near



Carlton on May 21, 1858—one hundred years ago.

In actual fact, the Cooper's Hawk is a regular nester, at least in eastern Saskatchewan, where there are medium to large clumps of poplar. Indeed it is one of the hawks most commonly banded in Saskatchewan! By contacting good observers in likely areas, I was able to compile the following list of representative Saskatchewan breeding records:

**Armley** (4 miles east of): May 24, 1935. Nest, 3 eggs, 28 ft. up in white poplar. — M. G. Street.

**Armley** (6 miles SSE of): June 28, 1936. 3 young out of nest, thought to have come from nest over 20 ft. up in white poplar. — M. G. Street.

**Sheho** (3½ mi. NW of): July 26, 1948. Nest, 4 young, 20 ft. up in white poplar. 3 banded; one flew. — M. G. Street.

**Sheho** (3¾ mi. NW of): July 26, 1948. Nest 16 ft. up in white poplar. 1 young able to fly; amount of down suggested 2 or 3 nestmates. — M. G. Street.

**Spirit Lake** (NW ¼ of sec. 11, twp. 29, range 5 w. 2nd mer). May 14, 1951: nest 20 ft. up in white poplar. 4 young on July 4. — W. Anaka.

**Spirit Lake** (SW 13-29-5w2). May 12, 1955: nest 20 ft. up in balsam poplar. 4 downy young banded on July 6. — W. Anaka.

**Spirit Lake** (NW 11-29-5w2). May 30, 1956: nest 20 ft. up in balsam poplar. 4 young banded on July 15. — W. Anaka.

**Spirit Lake** (SW 13-29-5w2). May 26, 1957: nest 25 ft. up in balsam poplar. 1 young banded on July 25; one or two flew away. — W. Anaka.

**Spirit Lake** (SW 13-29-5w2). June 1, 1958: nest, 5 eggs, 22 ft. up in balsam poplar. 3 downy young on June 30; 2 full-grown young out of nest banded July 23. — W. Anaka.

**Yorkton** (Leech Lake, 10 miles south): Nest, 3 eggs, found May 28, 1945 by J. H. Wilson. Visited June 8, 1945 by W. H. Carrick.

**Yorkton** ("muskeg" at west city limits): June 10, 1947. Nest, 3 eggs, 22 ft. up in balsam poplar. 2 young banded July 11. — S. Houston.

**Yorkton** (York Lake, 4 miles SW): May 31, 1953. Nest 20 ft. up in balsam poplar. 2 young banded July 12. — S. Houston.

**Saltcoats** (½ mile NE). 1956. Nest, 3 eggs, in white poplar.—Bill Horseman.

**Bredenbury** (9 miles SW). 1956. Nest 4 eggs, in white poplar. — Bill Horseman.

**Saltcoats** (1 mile N.): May 23, 1958. Nest, 3 eggs, 20 ft. up in white poplar, 1 of the 2 young banded on July 19. — Bill Horseman.

**Saltcoats** (¾ mile E): May 28, 1958. Nest, 1 egg, 20 ft. up in white poplar. Egg then disappeared, and she renested with 3 eggs on July 18. Only one young was raised; it was banded Aug. 12 and was still in nest on August 31.—Bill Horseman.

**Saltcoats** (3 miles NW): June 17, 1958: nest, 2 young, 25 ft. up in white poplar. Banded June 22 (by Houston). — Bill Horseman.

**Round Lake, Qu'Appelle Valley** (½ mile west): May 27, 1945. Nest, 4 eggs, 15 or 20 ft. up in poplar at northern edge of marsh. — E. M. Callin.

**Qu'Appelle (Pasqua) Lake** (few miles west): May 18, 1954. Nest ready for eggs, 20 ft. up in poplar near bottom of north slope of valley. One adult present and quite agitated. — E. M. Callin.

**Fort Qu'Appelle** (Echo Creek, west town limits): June 12, 1955. Nest 1 egg and 1 newly-hatched young 20 ft. up in balsam poplar (climbed by Houston). — E. M. Callin.

**Qu'Appelle Lake, Pasqua Indian Reserve, N.W. of Muscow**: 1925. 3 young, 2 of which were banded July 16, 1925. — R. H. Carter.

**Boggy Creek, Lumsden** (11-19-21w2): Nest, 4 or 5 young, about 1944. — Doug Gilroy.

**Boggy Creek, Lumsden** (12-19-21w2): Nest, 2 downy white young 20 ft. up in maple, July 5, 1955. Next day young had disappeared. — Doug Gilroy.

**Boggy Creek, Lumsden** (26-19-21w2): Nest, 4 or 5 young, June 30, 1956: 3 young out of nest banded by Houston on July 15. — Doug Gilroy.

I have found the Cooper's Hawk to be a rather secretive and wary bird—it is not likely to be found during "roadside birding" from an automobile. Indeed, I have not identified it during the breeding season **except** at its nest. Like the Long-eared Owl if you see the bird at all in June or July, you will almost always find it nest. The Cooper's Hawk is undoubtedly much commoner in Saskatchewan than has been generally realized.



## CLIFF DWELLING SPARROW HAWKS IN SOUTHERN SASK.

by Richard W. Fyfe, Saskatchewan Museum of Natural History.



Natural cliff cavity used by Sparrow Hawk

Photo by R. W. Fyfe

The first records for cliff nesting Sparrow Hawks (*Falco spaverious*) in Saskatchewan were those made in the Big Muddy Valley by Dr. Peter Gregg, other members of the Saskatchewan Falconry Association, and myself during May and July of this year. Although Sparrow Hawks usually nest in tree cavities, they have been recorded nesting in cliffs in other regions of North America (Bent, 1938, *Life Histories of North American Birds of Prey*; Pough,

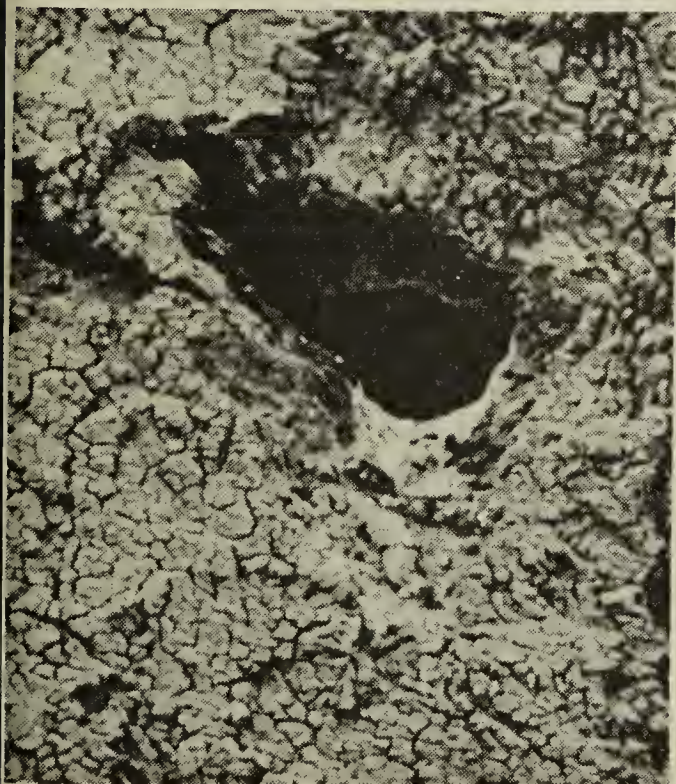
1953, *Audubon Guides*).

On May 24, 1958, Dr. Gregg and myself located two nests in the Big Muddy Valley. On return visits, July 1 and July 12, seven additional nests were found and recorded. All were located in holes in the valley cliffs in either naturally formed cavities or cavities apparently made by flickers in previous years. The nests were situated 15 to 50 feet above the valley floor and were easily located by the white staining at the entrances of the cavities. Eight of these nests were examined and were found to contain three to five young birds.

I feel it is safe to assume that Sparrow Hawks have utilized these unusual nest sites due to the absence of tree cavities in an area meeting other requirements of the birds.

### SUMMER RECORD OF THE GREAT GRAY OWL

At 3.30 p.m. on June 13, 1958, Jim Rooke and I had an excellent look at a Great Gray Owl. The bird was on a fence post in an opening adjacent to heavy poplar timber, five miles northeast of Peesane, Saskatchewan. The owl flew into the bush and I was able to find and flush it a second time. It was a dark phase, almost sooty, Great Gray Owl. We had a good view of the round head from about thirty yards. — Elwin Baines, Tisdale.



Artificial cliff cavity used by Sparrow Hawk.  
Photo by R. W. Fyfe



# Protecting A Young Marsh Hawk

By Hans Dommasch, Photography Dept., College of Medicine,  
University of Saskatchewan, Saskatoon



Fig. 1—Young Marsh Hawks—11 days old.

These photographs record my personal experience with a young Marsh Hawk. This spring, a friend of mine found a Marsh Hawk's nest in a field and I pitched a tent near the nest to watch and photograph the birds (see fig. 1). One day, however, I discovered that part of the field had been plowed. The nest was



Fig. 2—Man-made nest.

destroyed and three of the four young hawks were dead. The fourth bird was hiding under cover in the unplowed portion of the field.

I went to the owner of the field who had not known of the nest, but who agreed to help me protect the remaining hawk. Then I cut bushes and built a new nest (see fig. 2) to protect the bird from physical attack, sun and possible escape. The problem was whether the mother hawk would return to this new home. She did!

Day after day I returned to the field to watch the young hawk grow. Finally the hawk (a female) was strong enough to find a new hunting ground. As it left the nest (see fig. 4) I had the satisfaction of feeling that I had probably saved the hawk's life.



Fig. 3—Young Marsh Hawk in man-made nest—14 days old.



Fig. 4—First day out of the nest—21 days old.



**EARLY FALL RECORD OF SNOWY OWL.** — On August 23, 1958, a Snowy Owl was observed along with myriads of waterfowl on the east shore of Goose Lake about seven miles east of Harris, Saskatchewan. The owl was sitting in a patch of sedge, making a striking contrast against the green background. Apparently it was an immature bird as patches of down were still visible especially about the head. Flushed, the owl flew off toward the lake and later was seen perched on an overturned stump several yards from shore. Perhaps this early arrival foretells a hard winter ahead, maybe the lemming population has tumbled, or more likely it is just a wandering young owl,—Bob Folker, Wildlife Ecologist, D.N.R.



Photo by F. W. Lahrman  
 "Thor" (Pigeon Hawk) diving at the lure  
 swung by Howard Erickson, member of the  
 Sask. Falconry Association.

### Resolutions Passed Urging Protection of Birds of Prey

**MOOSE JAW NATURAL HISTORY SOCIETY**—On September 12, 1958, an open meeting of the society was held to arouse interest in the birds of prey. Visitors included members of the Moose Jaw Fish and Game League, the South Saskatchewan Wildlife Association, Wildlife Branch D.N.R., Regina Natural History Society, and the Saskatchewan Museum of Natural History. At the Saskatchewan Training School

grounds Richard Fyfe and members of the Saskatchewan Falconry Association gave an exhibition of falconry. The group then gathered in the hall for a short talk by Mr. Fyfe on the history of falconry and the main address of the evening on the "Role of Hawks and Owls" by John A. Livingston of Toronto, executive director of the Audubon Society of Canada. Mr. Livingston's remarks gave rise to numerous questions and a discussion followed on the advisability of introducing legislation in Saskatchewan to protect birds of prey. A motion was made by W. J. Beamish, president of the Moose Jaw Fish and Game League and also a member of our society that "**All hawks, owls, eagles and ospreys be protected, except that the owner of poultry or other domestic animals (including game farms) and the members of his immediate household and his bona fide employee, may destroy by shooting, any of these birds which is in the act of doing real damage to the said poultry or other domestic animals.**" The motion was passed with no dissenting vote.—Mrs. F. B. Taylor, Secretary, Moose Jaw Natural History Society.

**SASKATCHEWAN NATURAL HISTORY SOCIETY** — At the annual meeting of the society in Saskatoon, October 18, 1958, a significant part of the programme was devoted to the question of the protection of hawks and owls. The main address of the evening was given by John A. Livingston, who restated the strong case he had made for the birds of prey at the Moose Jaw meeting. He defined the term "balance of nature," showing the interdependence of all animal and plant life and explaining how predators play a role in this "swinging" balance. In conservation education, he said, lies the only hope of removing the age-old stigma attached to birds of prey. The Audubon Society of Canada is therefore making every effort to promote education about the role of the hawk and owl in nature's balance, as well as legislation to protect them. Following Mr. Livingston's address, the aesthetic value of the birds of prey was convincingly shown in the kodachrome shots of C. Hampson and the movies of E. Jones who came from Edmonton at their own expense to speak for the hawks and owls. Richard Fyfe and members of the Saskatchewan



Falconry Association again showed the beauty of their trained falcons as they flew them for the audience.

When the resolutions were brought in at the afternoon business session, the following resolution was adopted unanimously by the meeting: **"That all hawks, owls, and eagles be protected, except that a farmer, landowner, or game warden may destroy by shooting hawks or owls which are in the act of doing real damage to managed game, poultry, or domestic animals on the land he owns or occupies."**

**WHIP-POOR-WILL OBSERVED AT SPIRIT LAKE.**—A Whip-poor-will was present at Spirit Lake during early June this year. I first heard it on June 4 when it sang in a yard for some time in the late evening. Although this was the first time that I had heard this species, its call was distinctive enough to be identified readily. I heard it almost every evening until June 15. The first evening I saw it in flight, but it was too dark to note any markings. This species is rare in the district at present, although in Stuart Houston's *Birds of the Yorkton District* the late John Gunn is quoted as finding it common from 1888 to about 1908.—Bill Anaka, Spirit Lake, Sask.

**DRY WEATHER AFFECTS NESTING OF BARN SWALLOWS.** —

Because of the unprecedented dry season this year an unusual condition developed and prevailed which affected all birds in this locality that use mud for their nests. Barn Swallows and Robins were particularly hard hit by this lack of building material. I observed one Barn Swallow nest that was started after a light shower and left unfinished for over a month before another light shower produced enough mud to finish this nest. Unfortunately this nest fell off after the eggs were laid because the mud used was too dry. Another nest under observation is just now (Sept. 15) raising its second brood.—Anthony Hruska, Gerald, Sask.

**COMMENSAL FEEDING OF EVENING GROSBEAK AND HERMIT TRUSH.**—Near my kitchen window grow several large pincherry trees, which are 12 to 17 feet in height. This year, as usual, these trees were heavily fruited. Between 7 and 8

o'clock in the morning of September 24, four Hermit Thrushes were seen picking up and eating the red pulp of the cherries as it was continually dropped by two Evening Grosbeaks that were feeding high up among the branches. The Grosbeaks were removing the pulp before cracking the stone which also was dropped before they swallowed the kernel. Several times the thrushes were seen to catch the pulp as it fell, in smart fly-catcher fashion. Competition for this food appeared to be keen amongst the Hermits as they continually chased one another from beneath the trees, but quickly returned to resume feeding.—Maurice Street, Nipawin, Sask.

**RECORD OF PARULA WARBLER AT EMMA LAKE, JUNE, 1939.**—

On June 27, 1939, Farley Mowat and F. Banfield observed a male Parula Warbler at Emma Lake. The bird was not collected but was under observation for about five minutes and was clearly seen at distances of no more than fifteen feet. As there was no other record for the province at the time, this record was not published in Mowat's "Notes on the Birds of Emma Lake, Saskatchewan" (Can. Field-Nat. 1947, pp. 105-115). — C. S. H.

**"Trouble" on the Cover**

The cover photo of this *Blue Jay* shows Richard Fyfe's trained Prairie Falcon "Trouble." Recently an unexpected tribute was paid to "Trouble" by Beatrice Ione Perry of Loveland, Colorado, who sent these lines to Mr. Fyfe:

A young prairie falcon belonging to Fyfe

Was caught at Big Muddy too early in life

To have any hawk-fun before he was tamed—

He can't avoid Trouble, for Trouble he's named!

But sometimes, while pensively watching his toes,

He sees he toes in, so wherever he goes,

You can tell by the fiery look in his eye

He's worried 'bout something, but will not say die

Till he fools all his tamers—the hounds and the scamps—

For he knows he'll wind up with his picture on stamps.\*

\*Reference to the conservation stamps sold in the U.S. by the National Wildlife Federation.



# Nesting Record of the Lark Sparrow

By Doug Gilroy, R.R. No. 1, Regina



Nest and eggs of the Lark Sparrow photographed July 30, 1958, on the Gilroy farm near Brora, Sask. The nest was built on the ground at the base of a fine, large specimen of the Nodding Thistle (*Carduus nutans* L.).



Lark Sparrow on the nest, July 30, 1958. Lark Sparrows have been observed in this area for several years, but this is the first nest located.



# Observations of the Birds of Candle Lake

By Frank Brazier, Regina

Candle Lake is a relatively large, deep lake located in northern Saskatchewan at lat.  $53^{\circ}45'$  N., long.  $105^{\circ}15'$  some 30 miles north-east of Emma Lake and about 60 miles by road from Prince Albert. Map sheet No. 73-H-14 (Candle Lake Forestry Map—scale 1" to 1 mile), available from the Department of Natural Resources at Regina or Prince Albert for 75 cents, is a necessity for anyone contemplating a visit to the area.

A mixed forest of evergreen and deciduous trees surrounds the lake, and away from the roads the walking ranges from difficult to impossible, owing to dense ground cover, old tangled burns, muskeg, swamp, etc. The lake teems with fish and the woods abound with wildlife, particularly birds. Our observations were made travelling by car and on foot along both shores of the lake in the near vicinity (including Torch Lake and Little Sandy Lake).

The birds listed in this article were logged during a 2-week period (June 28-July 13, 1958) spent in the area. Observers included Elmer Fox, Reg Fox and myself. The 90 species that we identified at Candle Lake during this time by no means exhaust the kinds of birds there, for we are confident that given more time to investigate the area in greater detail we should have been able to add others to the list.

During the two weeks, five Common Loons were seen—four at Little Sandy Lake one evening, and a solitary adult on Candle Lake later.

The grebe family were represented by four of Saskatchewan's five grebes: the Red-necked were common on Candle Lake and a pair with downy young were seen on Torch Lake; one adult Horned Grebe was seen on Torch Lake, where we also noted an adult Western Grebe with a single downy young, and a single Pied-billed Grebe.

Groups of adult White Pelicans were seen in varying numbers daily, the largest group consisting of nine. A breeding colony is reported at Candle Lake, and although we did not see the colony ourselves, Fox noted young pelicans on a brief visit made later to the lake.

Great Blue Herons were observed on three occasions and an American Bittern once. We saw eight species of ducks, Mallards with little fleets of downy young being common, while a few Ring-necked Ducks, Canvasbacks and Common Golden-eyes all were seen with downy young. A few adult Lesser Scaup, one male Pintail, two White-winged Scoters, and two Common Mergansers were also noted.

Birds of prey were sparsely observed, a single Cooper's Hawk, Broad-winged Hawk and Osprey being all we saw besides a few Sparrow Hawks and three Bald Eagles. The Bald Eagle's eyrie was in an old spruce on a small island in Candle Lake: there were two adults and one eaglet the size of a Great Horned Owl. According to local report, a pair of eagles has nested here since 1921. The island with the eagle's eyrie is rimmed with tall spruce, with two or three clumps of tall spruce in the middle. These appear to have survived a fire which swept the entire island, and the mass of fallen trees, branches and stumps is totally covered with a dense growth of brambles festooned with spider webs. Because of the nature of the cover, the island swarms with breeding birds, from eagles to warblers.

The Ruffed Grouse (one individual) was the only grouse seen. We know that it breeds in the area because Lyle Lensen, the D. N. R. Conservation Officer there, reported a nest with a clutch of eggs.

Two species of rails were noted: Virginia Rails were heard at Torch Lake, and one adult Sora was seen on a nearby slough. Four adult American Coots, one with a flotilla of downy young, were seen on Torch Lake.

Killdeers were seen twice, while the sandpipers were represented by Common Snipe (recognized by its unmistakeable winnowing); Spotted Sandpipers were observed on the beaches, and two Greater Yellowlegs perched on the tips of two 20-foot spruces on the road between White Gull and Candle Lakes.

Gulls and terns were well represented. Ring-billed Gulls were common, with fewer California Gulls and small numbers of both the



Franklin's Gull and the similar Bonaparte's Gull. The Common Tern was common and the Black Tern was abundant in breeding colonies on Torch Lake and nearby marshes.

Two Great Horned Owls were seen on the road to White Gull Lake one evening, and another smaller owl noted but too briefly to determine species—perhaps the Boreal Owl. The Common Nighthawk was noted at Little Sandy Lake and Candle Lake. We had a long, close view of a male Ruby-throated Hummingbird at rest late one afternoon, his throat alternately ruby-red and velvet-black as he turned his head in the sunshine. One Belted Kingfisher was seen where the road to White Gull Lake crosses Torch River.

We noted six species of woodpeckers: the magnificent Pileated once, the Yellow-shafted Flicker commonly (one nest), Yellow-bellied Sapsuckers commonly (two nests with young), two Hairy Woodpeckers at nest with young, and Downy Woodpeckers (also nesting). We saw one Black-backed Three-toed Woodpecker at the same time as the Horned Owls were observed.

The flycatchers were well represented. Eastern Kingbirds were common, one family with four bob-tailed, frog-faced young living in a dead tree tangle in a slough; two Eastern Phoebe were noted, and a nest with four eggs found (under a bridge, of course); Least Flycatchers were common; two Western Wood Pewees were noted, and one Olive-sided Flycatcher.

Swallows were many in number, but only of two species. Tree Swallows were common, and two nesting sites were found; Barn Swallows were abundant, three nesting sites being found—one with eggs, one with young, the third not examined.

The corvines were not numerous, but the few observed were noisy. A few Gray Jays, some of them bob-tailed young, were encountered on the road to Hanin Creek. A few adult Common Ravens croaked, fluted, gargled and wheezed around Candle Lake while a few Common Crows with fledgling young were usually in evidence.

We found Black-capped Chickadees, once with fledglings, but only adult Boreal Chickadees. One Red-

breasted Nuthatch was seen and one Brown Creeper.

Of the Wrens, only one Short-billed Marsh Wren was seen at the west end of Torch Lake in a hay meadow near clumps of bushes, typical habitat for this wren.

The thrushes were represented by Robins, which were common and often seen carrying food, while fledglings were also observed; a few Hermit Thrushes; one Veery with food; and six Mountain Bluebirds seen on a burn near White Gull Lake.

The only kinglet seen was Ruby-crowned, it being common and breeding (one family seen with young).

We did not see Bohemian Waxwings but the Cedar Waxwing was common. We saw no shrikes or starlings, and only one vireo, the Red-eyed which was common and breeding, three nests with eggs being located.

We identified nine species of wood warblers, fewer than expected. A few Tennessees were seen, one Cape May in the birch around the D. N. R. Headquarters, a few Myrtles, two Blackburnian (one adult male on the eagle island, and one adult female carrying food near the D.N.R. headquarters), two Ovenbirds were noted near D. N. R., while a few Northern Waterthrushes were seen along the marshy east shore of Candle Lake by Hayes' Camp. A few Mourning Warblers were seen, including three agitated adults—two on the eagle island and one near Hayes' Camp. Yellowthroats were common near water, one adult male observed carrying food. (This one systematically attacked the cattails, tearing the seed heads apart until a small white moth flew from one which was seized). One Wilson's was seen, concluding a somewhat unsatisfactory warbler list.

Two House Sparrows were seen, and only three species of icterids. Both the Redwinged Blackbird and Common Grackle were abundant and breeding (nests with eggs or young found in both cases); the Brown-headed Cowbird was common.

The fringillids were well represented (11 species): two Purple Finches, a few Pine Siskins and American Goldfinches, one Red Crossbill, three LeConte's Sparrows (in a hay meadow near Torch Lake),



a few Slate-colored Juncos, abundant Chipping Sparrows (young, nest with eggs), a few Clay-colored Sparrows (young, nest with eggs), many White-throated Sparrows (common—nest with eggs found), three Swamp Sparrows (two adults feeding a fledgling), and abundant Song Sparrows. We had hoped for a better sparrow list also.

Without exception the species observed are summer residents, on their breeding grounds. It will be noted that some of the species on our list are breeding well beyond the breeding ranges given for them in the standard handbooks.

## BITTERN BEHAVIOR

By Joyce Dew

Saskatchewan Museum of Natural History

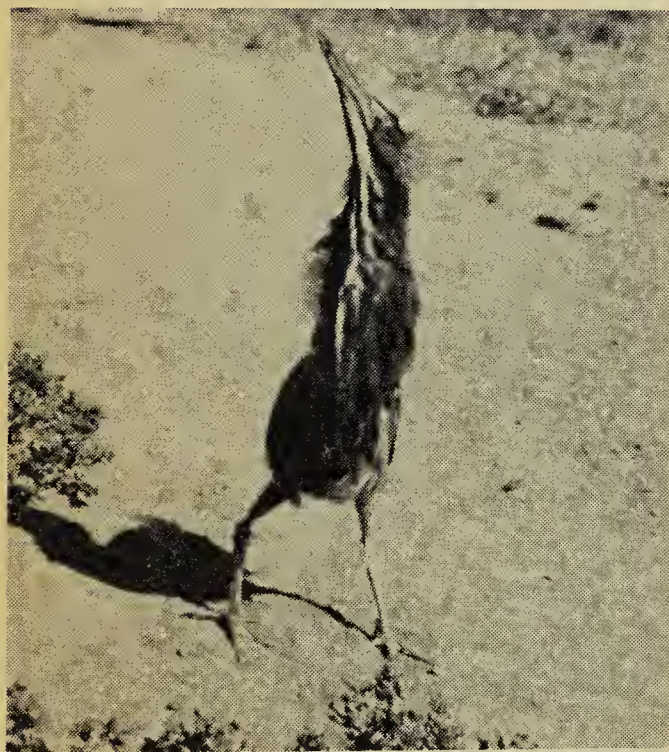


Photo by Fred Lahrman  
AMERICAN BITTERN

The prototype of a bittern, standing upright and motionless, well camouflaged in the reeds, was firm in my mind. It came somewhat as a shock then, when I saw my first bittern\* behaving in a bittern-like manner in very unbittern-like surroundings. Certainly this bird could not have been more noticeable. This was contrary to all I had been led to expect from its "camouflage" behavior. The place was a puddle of water completely devoid of cover beside old No. 1 highway west of Moose Jaw. The bird stood upright and alert in the middle of the puddle while I sped past, slowed the car

down, shifted it into reverse, came alongside and sat and stared. The bird had one eye turned toward me and the two of us remained completely motionless for some seconds. Then the bird leaned forward, took several steps toward shore, assumed a motionless upright position for several seconds, took several more steps, pause again. Once on shore it took several steps, assumed its motionless upright position then with no apparent haste flew away. Fred Lahrman of the Museum staff reports having seen a bittern behave in like manner. When caught off guard in the open it stood bolt upright beside a water trough.

\* American Bittern (*Betula lentiginosus* [Ed.]).

## MORE BLACK DUCK RECORDS

Since the publication of Lucy Murray's article on the Black Duck in Saskatchewan (*Blue Jay*, XVI: 109-111), the following records of the occurrence of the Black Duck in this province have been brought to our attention.

It should also be noted that two of the four Black Ducks banded at Yorkton, 1945, were banded by Stuart Houston, and two by J. H. Wilson (see *Blue Jay*, XVI, p. 109.).

*Ducks Unlimited*: Adult male Black Ducks banded by biologist Tom Sterling at Pel Lake, Wynyard, as follows: July 15, 1955 (1), Aug. 16, 1955 (1), July 23, 1956 (1), July 9, 1957 (2), July 19, 1957 (7), July 11, 1958 (4), July 23, 1958 (2). Also one adult male banded at Kutawagan Lake, Wynyard, by Tom Sterling, July 9, 1958, and one adult male (banded in Wayne County, Michigan) trapped and released by him July 23, 1956. The fact that all Black Ducks banded by Sterling were adult males is probably due to their being banded in the drive banding of flightless ducks on the two lakes that have become notable concentration areas for moulters.—B. W. Cartwright.

*Canadian Wildlife Service*: Black Ducks banded as follows—1950 (3 adult males, 1 adult female), 1952 (2 adult males), 1955 (2 sex and age unknown), 1956 (1), 1958 (1 Moulting adult drake, caught at Beaufield Slough, 23 miles north of Kindersley, July 2); spring report by Tom Sterling of Ducks Unlimited of a Black Duck flying with a Mallard female east of Saskatoon in April or May, 1958; fall (Sept.-Oct.) records for Kindersley are as follows—1956 (2 flying adult drakes caught in bait traps), 1957 (1 adult drake in bait trap and 1 shot by hunter), 1958 (1 adult drake in bait trap and 2 seen in Teo Lake Community Pasture; one adult drake Mallard X Black Duck hybrid caught in bait traps, Oct. 8).—J. B. Gollop, Alex Dzubin.

*Maurice Street, Nipawin*: 2 birds seen May 16, 1947; single birds seen on May 18, 1951, and May 22, 1952; also noted at Candle Lake, July 31, 1944 (2 males).

*Bill Anaka, Spirit Lake*: One observed September 26, 1954.



# The Diving Duck Crisis

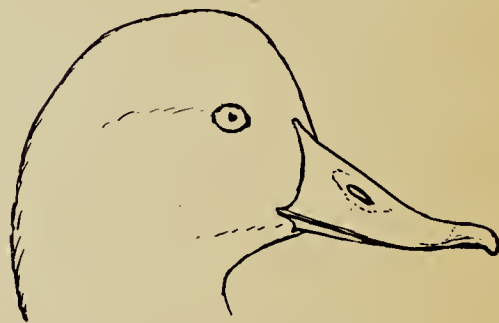
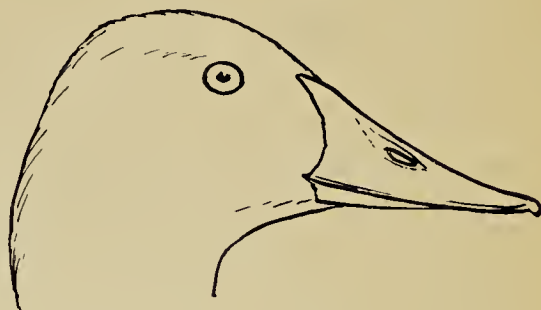
By Dr. Stuart Houston, Yorkton

The sharp drop in the population of our diving ducks calls for a close look at the whole situation by all naturalists and sportsmen, as well as by the professional biologists and administrators. Past performances suggest that we are rarely aroused until it is too late—or almost too late.

The diving ducks (Redheads, Canvasbacks, Ringnecks and Scaup) require more specialized habitat than do the puddle ducks (such as Mallards, Pintails, Widgeon and Teal). The diving ducks need larger, deeper marshes and more cover. The declining water levels this year have suddenly emphasized our shortage of good marshes. We have been short-sighted, greedy and even stupid, for we have drained many of the best marshes. Even now, there is pressure from some sources to drain more marshes. With modern earth-moving equipment, it is all too easy to ruin a marsh for ever.

Our present game laws are formulated chiefly with the more abundant puddle ducks in mind—they do not allow for the different habits of the diving ducks. The diving ducks tend to nest later (on the average), and mature later; I have seen Canvasbacks and Redheads still unable to fly three weeks after the opening of the hunting season! The female Redhead makes matters worse by being a poor mother, laying eggs in nests of other ducks, and being less attentive to her young. Diving ducks are particular in their habitat needs, do not fly out to feed in grain fields, and are more apt to remain on their home marsh. Banding has shown that female ducks (particularly Redheads, in my experience), return to nest in the marsh where they were raised. Hence if there is heavy shooting pressure on the home marsh, the local breeding population can be wiped out, especially if the season opens early before the local birds are "diluted" with northern birds. Breeding birds have in this way already disappeared from many good marshes in Minnesota.

Although stubble shooting is popular in most parts of Saskatchewan, it is "pass shooting" and shooting from boats that pose a men-



Canvasback above; Redhead below

Sketch by F. W. Lahrman

ace to our diving ducks. This type of shooting is concentrated on the lakes and marshes where diving ducks occur. Canvasbacks are a favorite with our American visitors. Although many think that little marsh shooting is done in Saskatchewan, we must remember that intensive shooting on one marsh may decimate the native population. When Redheads constitute less than 1% of the duck population, a very little of this type of shooting may prove too much.

My banding recoveries from ducks banded near Yorkton between 1943 and 1948, show that shooting pressure is heavier on Canvasbacks and Redheads than on any other species. (Close behind in third place is the Mallard, but this species, more adaptable and with higher reproductive success, seems able to withstand heavier hunting pressure). Here are the recovery percentages for the five main species:

Canvasback, 28.2% (24 recoveries from 85 birds banded).



Redhead, 21.3% (80 recoveries from 375 birds banded).

Mallard, 21.2% (413 recoveries from 1946 birds banded).

Pintail, 13.7% (69 recoveries from 504 birds banded).

Blue-winged Teal, 4.9% (65 recoveries from 1335 birds banded).

Remember that these figures need to be approximately doubled to give the true loss from hunting; to allow for crippling losses; unrecovered birds and bands not reported. Thus Canvasbacks and Redheads are subject to about 40% mortality from shooting each year.

Most of this shooting is done in the United States, so they will need to reduce their bag limits for diving ducks. In Canada, game regulations must also take the diving ducks into account. In Manitoba, they open the duck season in two sections—an early opening for stubble shooting, to help reduce crop depredations by the Mallards and Pintails; and a later opening of over-water marsh shooting, to protect the diving ducks. I would suggest the last week in August and the first week in October as being suitable dates for Saskatchewan. There are theoretical difficulties in enforcement, but these are not much more serious than supervising before-season permits for crop protection or having waterfowl and upland game seasons opening on different dates. If a hunter has five Canvasbacks and three Redheads in his bag, he wasn't shooting over stubble!

There is an urgent need to educate the public to the value of our

marshlands; as our population grows, we need the marshes more, not less. Let us not be misled by the cry that "we must not oppose progress." So-called progress may be in a backward direction! Even from an economic aspect, marshes rarely become good farm land and the value to the farmer of a high water table and an ample water supply should never be forgotten. Further, a marsh can raise a valuable crop of fur, sometimes worth more in dollars than any crop it could produce after being drained. The present dry spell can at least remind us to preserve those marshes that still remain.

**EDITOR'S NOTE:** The figure of 40% for the Canvasback and Redhead kill, arrived at by Dr. Houston on the basis of his banding returns, coincides almost exactly with the findings of the United States Fish and Wildlife Service whose records show that hunters take an astonishing 47% of the Canvasback population each fall. Even more sobering are the statistics released by H. Albert Hochbaum, director of the Delta Waterfowl Research Station (*Winnipeg Free Press*, Sept. 24, 1958). Dr. Hochbaum told the executive of the Manitoba Federation of Game and Fish Associations that banding returns indicate that 90% of the banded adult female and young Canvasbacks flying south are killed by U.S. and Canadian hunters annually. This removes any chance of natural increase among the Canvasbacks because it is a known fact that when the kill is greater than 15% natural increase ceases in any species.

The estimated Canvasback population in North America, according to Dr. Hochbaum, is now 350,000. This low figure sinks when the sex ratio is examined. There are 70 males for every 30 females, reducing the reproduction stock to about 100,000 breeding pairs. The sex ratio is aggravated by the fact that males go to the northern lakes following the breeding season and later, when they go south, avoid the hunting marshes of southern Canada and the United States where female Canvasbacks are subjected to heavy hunting pressure.

## PRELIMINARY REPORT ON THE PRAIRIE NEST RECORDS SCHEME

By E. L. Fox, Regina

The Prairie Nest Records Scheme which began in the spring of this year had by the middle of October received over 600 returns on 91 species of birds. We know that there are a number of cards still to be turned in and we should like to have these as quickly as possible in order that they may be included in the first annual report to be published in the March issue of the **Blue Jay**.

We have received cards from many areas in the southern half of Saskatchewan and in addition we have a few returns from Alberta and Manitoba. It is important that our Alberta and Manitoba members send

in returns as the Prairie Nest Records Scheme is intended to bridge the gap between Ontario and British Columbia where similar information is being recorded.

Returns have been received on 91 species including most of the common birds. Strangely enough, reports have not yet been received for the following common species: Green-winged Teal, Redhead, Gray Partridge, Willet, Franklin's Gull, Bonaparte's Gull, Burrowing Owl, Brown Thrasher, Baltimore Oriole. On the other hand, nesting information has been received for a number of species which are rare or whose nests



are difficult to find. These include: Bald Eagle, Prairie Falcon, Sora, Common Snipe, Upland Plover, Veery, Ovenbird, Bobolink, Rose-breasted Grosbeak.

During the past nesting season a number of inquiries have been received on various aspects of the scheme. The most frequent question asked is, "How can a single observation of a common nesting bird contribute anything of value to a Nest Records Scheme?" Several points should be made in answering this question:

(1) It is important that the observation be recorded and thus made available to other observers rather than lying buried in a field note book.

(2) The observation may establish a breeding record for your district.

(3) The observation may establish a breeding date for your district.

(4) The observation may give additional information about the breeding range of a certain species. For example, records submitted from

observers in Saskatchewan may well help to determine the breeding status and range of the Western Kingbird. The Western Kingbird nests in Regina. It does not nest in Prince Albert, as far as I know. Somewhere between these two cities is the northern breeding range for Saskatchewan of the Western Kingbird. Nest record cards could determine the northern range of this bird.

(5) The bird considered common by one observer may actually not be common in another district.

A nest record card fully completed is, of course, most desirable. If these cards are received in sufficient numbers we shall have a file of information that may well pose many questions for the professional ornithologist to answer. The important thing is that only by the concerted effort of members submitting cards can this fund of information be made available as a basis for further investigation. **Please send your cards immediately to Prairie Nest Records Scheme, c/o Saskatchewan Museum of Natural History, Regina, Sask.**

## INFORMATION NEEDED ON CLAY-COLORED SPARROW (*Spizella pallida*)

An appeal has been made for information about the Clay-colored Sparrow by Oscar M. Root who is preparing a life history of this sparrow for the Smithsonian Institution (Bent series). As the second volume of the Fringillidae will not go to press for several years, it will be possible to use material submitted within the next two or three years or more.

Information is needed on the following topics:

1. Behaviour—Root has very little information on courtship behaviour. He asks specifically: Do males arrive on breeding grounds before females? Are birds "paired" when they arrive? What is the size of territory? What is typical territorial behaviour? Besides courtship behaviour, information on unusual behaviour at any time would be useful.

2. Voice—At how many yards can song be heard? Does male ever sing on nest? during flight? Do only males sing? Height at which male sings? Does the Clay-color sing and feed in about the same place? Does it ever sing after the young leave nest?

3. Migration — Information needed on behaviour during spring and fall migration. Does the Clay-color migrate by day or by night?

4. Nesting—Positive proof (banding, etc.) needed of number of broods per season. General description wanted of newly-hatched Clay-color, nest-building, etc. Which bird builds the nest? How far do they travel for food? What care is given young after leaving the nest? How many eggs? Period of incubation?

5. Enemies—What enemies other than Cowbirds?

6. Parasites—Any information on internal or external parasites, or nest parasites.

7. Any records of albinism or melanism in Clay-color?

8. Any evidence of westward movement of species?

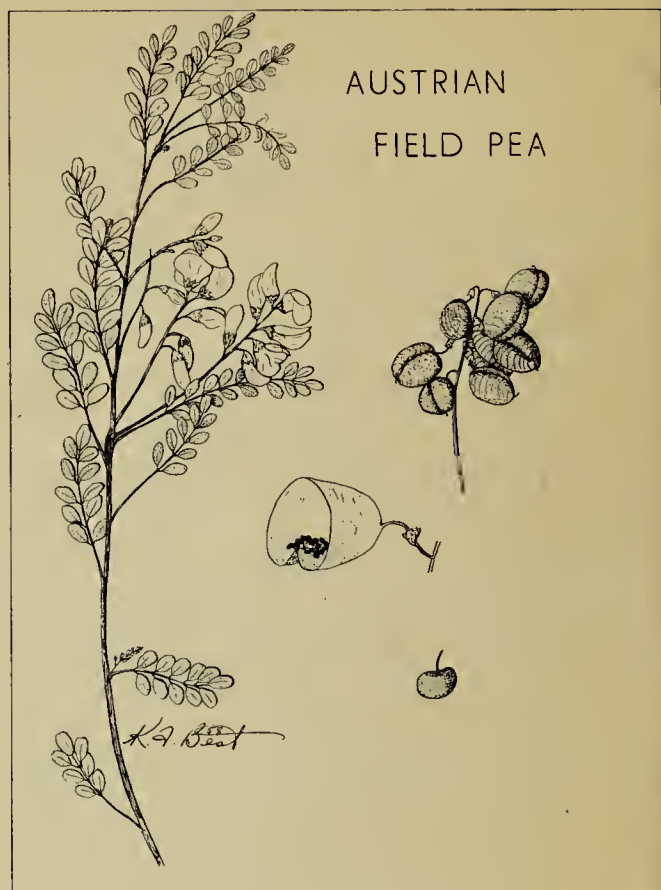
Anyone who now has this kind of information, or is in a position to make a study of this common Saskatchewan sparrow over the next year or so, should write for the detailed list of specific information needed, to Oscar M. Root, Brooks School, North Andover, Mass., U.S.A.



# New Provincial Plant Records

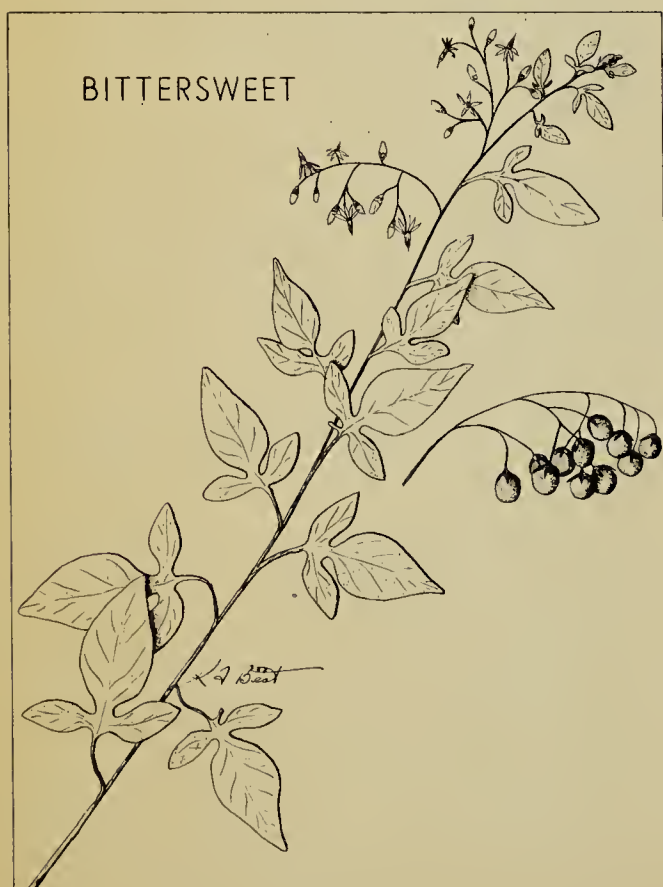
By Keith Best and Archie Budd, Swift Current

During September we ran across two plants hitherto unreported from Saskatchewan, one of which seems to be its first appearance in Canada. East of Maple Creek we found a large patch of *Swainsonia* or Austrian Wild Pea (*Swainsonia salsula* (Pall.) Taubert) on the margin of a slough. These were perennial legumes growing about two feet high with pinnately compound leaves with about 19 leaflets. These were wedge-shaped, up to half an inch long and slightly indented at the tip. The pea-like flowers were about  $\frac{3}{8}$  inch long and brick red in colour, the same colour as scarlet mallow, but dried to a purple tint. The fruiting pods were red when young but the mature pods were pale green, about  $\frac{3}{4}$  inch long and  $\frac{1}{2}$  inch wide, much inflated and of a papery texture with a groove along one side. The two rows of seeds were attached on the inside of the groove. A point which assisted in the identification was that the pods were stipitate, with a stalk attaching them to the remains of the calyx. *Swainsonia* has been found, but rarely, in Arizona, Colorado, Wy-



oming and Washington, but originates in Eurasia. Shrubby members of this genus are native to Australia and are used as garden ornamentals in Britain. This appears to be the first Canadian record. The patch we found was probably from seed brought in from the U.S.A. by an oil exploration rig which had drilled in the immediate vicinity a few years previously.

In the town of Eastend we found considerable European Bittersweet, or Woody Nightshade, (*Solanum Dulcamara* L.) the fruit of which is decidedly poisonous. This had apparently been introduced from Wisconsin as an ornamental under the name of Climbing Honeysuckle, but was spreading considerably. This woody based climber bears cordate based oval leaves with pointed tips, sometimes three lobed with small basal lobes. The flowers are deep purple like small potato flowers and the fruits are red, oval berries about  $\frac{3}{8}$  inch long and quite attractive. Although previously found at Morden, Manitoba, and Edmonton, Alberta, this seems to be the first occurrence in Saskatchewan.





# The Lodgepole Pine

By W. C. McCalla, Calgary, Alberta



Photo by W. C. McCalla.

LODGEPOLE PINE ON CORNWALL HILLS, B.C.



Photo by W. C. McCalla.

LEAVES AND CONES OF LODGEPOLE PINE

The Lodgepole Pine, *Pinus contorta* Dougl. var. *latifolia* Engelm., is a western pine. It is limited to the Cypress Hills in Saskatchewan but it is abundant in Alberta and British Columbia.

In deep, moist, well-drained soil it forms dense forests of tall, straight trees of almost uniform height and girth. On exposed rocky ridges, the trees are stunted, strangely bent and twisted as shown in the photograph.

These pictures were taken on the Cornwall Hills, near Ashcroft, B.C., at an elevation of 6,000 feet. I wondered about the age of these trees so a forestry man cut a dead tree of similar size. The annual rings showed that for 112 years these trees had been beaten by storm, by wind and by snow and ice, yet the leaves on the living branches were a healthy green, and the cones were about normal in size and shape.



## Boys' and Girls' Section

Edited by **Joyce Dew**, Saskatchewan Museum of Natural History, Regina



### Comments and Prize Winners

The material which is sent in to this section continues to improve in quality and the observations are good. The prize winner this issue is Gordon Skuce. His teacher gets a prize as well for having sent in a prize winning entry from his school.

Gordon describes appearances and behavior well. Note his description of the young hawks, "four young hawks stared at me with their wings raised and their mouths open." Also, Gordon has shown his interest in the diet of the hawks and has mentioned his findings in that respect. Details like these add interest and make the report more than a list of events.

The story about Cheeper the sparrow is beautifully told, and we would like to thank Mary's mother for sending it in to us.

Reprints of the Boys' and Girls' Section from a back issue of a **Blue Jay**, Vol. XVI, No. 1, are available from the Saskatchewan Museum of Natural History, Regina. Teachers and others who wish to interest children in writing to the **Blue Jay** will find these of value as information to give to interested children who do not have access to the **Blue Jay**.

### Contest Rules

Any young person may submit material for printing in this section of the **Blue Jay**. The entries must be first-hand observations in the form of letters, stories, poems, black-and-white sketches or photographs. Letters and stories should not exceed 500 words. All entries must be accompanied by the name, age and address of the sender, and the name of his or her school.

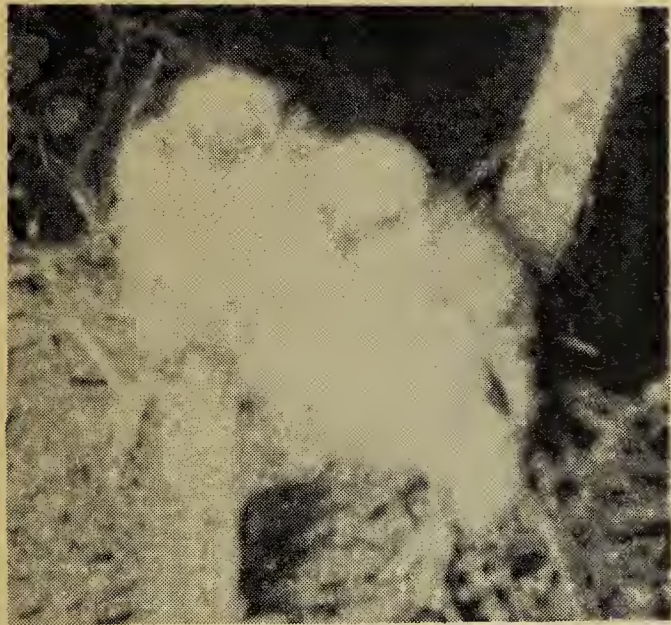
Two or more book prizes will be awarded with each issue of the **Blue Jay**. Teachers who send in entries from their pupils may also qualify for a prize. Winners will be sent a list of books from which to select their prize. Instead of selecting a book prize the winner may select a three-year membership in the society and receive twelve issues of the **Blue Jay** free.

Share your experiences with others. Send in your nature observations. Entries should be addressed to Boys' and Girls' Section, **Blue Jay**, Miss Joyce Dew, Saskatchewan Museum of Natural History, Regina. The closing date for the next issue is January 15, 1959.



## A NEST OF RED-TAILED HAWKS

By Gordon Richard Skuce, 13,  
Usherville, Sask.



Young Hawks, July 14, 1958

One day in the early part of July while wandering through the woods I heard a noise that sounded like a flicker. I looked around and saw a hawk circling above me. Later I saw it sitting in a nearby tree. As I walked toward it, the hawk flew off but I noticed a nest high in the tree. The nest was very hard to get at since it was about thirty-five feet off the ground. After much struggling I managed to reach the nest. As I looked over the edge four young hawks stared at me with their wings raised and their mouths open. They had only a few reddish-brown feathers on the tips of their wings and their tails. When I put my hand near the largest bird it pecked at it and scratched at it with its feet. Day by day they attained their plumage. I took a gopher to the nest one day. When I returned the following day it was not there. Another day I found a red squirrel in the nest, a number of bird feathers and the lower mandible of a small woodpecker in one of the pellets. One day after visiting them for about two weeks, one was missing. In a matter of a few days they had all disappeared. The mother continued to stay near the nest, and would occasionally scold at me. I went up to the nest later and found only a half eaten black bird. I hope the young hawks are all living.

## CHEEPER

As told to her mother, by Mary Patterson  
Whyte, age 7, Swift Current, Sask.

Cheeper is a sparrow. We found her with two other sparrows under a nest, blown out of a tree. She had very few feathers and could not fly or hop. We took her in and put her in a box. She did not seem to know how to feed. We mixed bread and milk and tried to open her mouth. At last she opened it, and we dropped some food in. From then on, every time she saw us with a dish and a spoon, she opened her mouth and "cheeped."

After a few days we put her in a cage, and gradually she learned to use her wings and hop from perch to perch. When she was stronger, we let her fly around the back porch.

When we had kept her for four or five weeks, we opened the door to let her fly away. She seemed so happy to be in the trees and fresh air.

Every time she was hungry she came to be fed. She perched on the edge of the dish while we fed her with a spoon. After another week, she learned to peck up her own food, but she still came back four times a day for her meals.

At first she stayed in the trees some nights, and other nights she came home and hopped into her cage. The first really cold night we covered her cage with an old coat. Now every night at dusk she comes in, jumps to the top perch of the cage and cheeps as if to say "It's bed-time, will you cover me up?" When she is covered up she looks around and gives a contented little twitter, and goes to sleep.

## A HAWK AND A DUCK

By John Evans, age 11,  
Vermilion, Alta.

On the first day of the shooting season. Dad and some of his friends and I went shooting. We were shooting for a while and Dad winged a duck. The duck glided over a small hill. A few seconds later, a gopher hawk\* flew after the duck. We heard the duck squawking obviously fighting. The noise gradually faded as if the duck were dying. The hawk probably ate the duck.

\* Probably a Swainson's Hawk.



## AN EXCITING HIKE

By Elizabeth McManus, age 10, and Vicki Knight, age 6, Madison, Sask.

On May 21 our school went on a hike to a cattle ranch.

When we got there we went up to the hills. We saw a lot of Buffalo Beans and other wild flowers, also a place in a dip with trees all around, which was a snake pit. We saw more than one snake pit. After we walked a while we saw a little baby meadowlark. Our teacher had a bird call and she blew it. The bird heard it. We walked till we could just about reach it but it flew away. We saw some very pretty stones. One stone was just like sheets of glass. You could peel it in sheets\*. We saw a moth that looked like a bee on our teacher's shoulder. Then we saw a mouse's nest with fuzz inside it. All of a sudden somebody yelled, "I stepped on a snake." The teacher and pupils ran to see it, but it was just a snake skin. Then somebody stepped on a cactus. After that we went and saw horses, colts, calves and cows in the coulees and one spring where they get their water. Then we went for supper at the house. After that we went home.

\* The mineral described here is mica. It can be split into thin flat layers, is flexible, transparent, can be scratched with your fingernail and is shiny.

## LOST MUSKRAT

By Jacob H. Jmaeff, Age 13, Kamsack, Sask.

On November the nineteenth, 1957, my father was repairing our truck when he noticed a muskrat coming from the direction of a neighbouring slough. He thought this unusual and started up to examine the little animal. It fled under an old truck tire, and my father thought it would perish so he transported it to our chicken house.

All went fine. The muskrat made itself a little home of straw and every night he took straw and dirt and patched up the door. The chickens did not seem to mind him at all. Then he began to chase the chickens and pull out their tail feathers. After my father discovered that this was doing harm, he took the muskrat to the slough he appeared to come from and put him in a muskrat home there.

## A WANDERING FAMILY

By Karen Knight, age 9, Madison, Sask.

On May 27, our school was very excited because we were going on a hike to my Grandma's cattle ranch.

The part I liked best was seeing some little ducklings. We all wanted to see them and of course we made so much noise that our teacher thought we had better go away quite soon. The mother duck must have thought so, too, for she flew away pretending she was hurt so we would follow her and leave her babies alone.

We started away and did not pay any more attention to them until one of us said, "Oh, look, the ducklings are following us," and sure enough some of the little darlings were following. We tried to get them back to their nest or into the pond nearby, but could not very well as we didn't want to touch them. Then we started to kind of chase them back. Most of them went down to the pond and one little duckling hid in a very small clump of wild roses. I think that if we hadn't met the little family of ducks our hike wouldn't have been so interesting.



COOT

By Doreen Kovalk, Springside, Sask.



## THE WRENS

by Ruth Faith Herman, Grade 5,  
Regina, Sask.

Campion College, Regina, Saskatchewan, is a very nice place. It has trees all around it, two big fields, and hedges all around the fields.

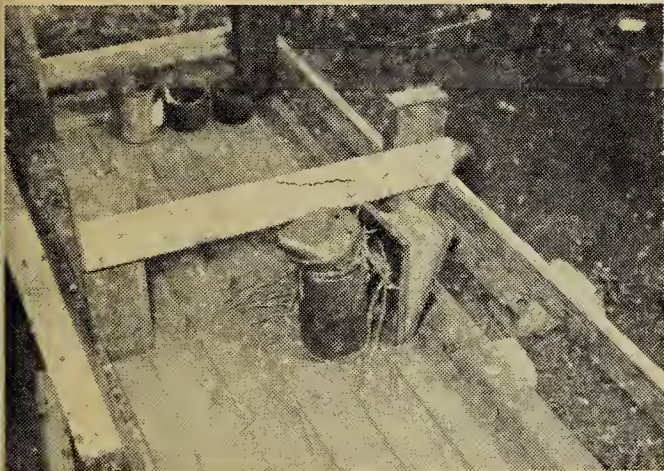
Father Peters, S.J., who teaches biology here, has some bees by the college. Once when he smoked some bees, he left the smoker in the trees. It wasn't long before two wrens spied the smoker. After having built four or five dummy-nests all around, the wrens finally built their nest in the smoker.

The mother wren laid six eggs in the nest, and sat on them for two weeks, keeping them warm.

Father Peters took pictures of the nest and the eggs, when the wrens were away.

The eggs hatched and the mother and father wren were kept very busy feeding the little wrens, with a lot of scolding and fussing.

The little wrens grew, and grew, and grew. Unfortunately the happy home was broken up by a marauding cat. The only thing left is Father Peters' pictures.



The smoker and the wren's nest.



Smoker opened to show the wren's eggs.

## GROUSE DANCING

by Lawrence Lamber, age 11, Okla, Sask.

One morning in spring my younger sister Louise and I left early for school hoping we could do some bird watching. That morning we saw two ducks. When we got nearer to school we saw about twenty prairie chickens<sup>1</sup>. They were doing the prairie chicken dance. They chased each other. They would have their wings spread and stick out their necks, spread their tails and make themselves look fierce. Then they would back into a depression and stamp their feet. As they stamped their feet, they would beat the ground with their wings. They made a cooing sound like a pigeon.

I saw them six times altogether. They gather in the same place every spring.

That morning in school my teacher asked me to tell everyone in school what I had seen.

<sup>1</sup> Probably Sharp-tailed Grouse. A booklet "Sharp-tailed Grouse in Saskatchewan" is available from the Saskatchewan Museum of Natural History, Regina. The different species of grouse found in the province are described in this booklet.

## THE SQUIRREL AND THE PIKE

by Jan de Grcot, age 11, Regina, Sask.

Two or three years ago, our family went to Lac La Ronge for the holidays. One day we went cruising in Iskwatikan Lake and we noticed a furious commotion in the water nearby. We turned around and saw pink water splashing into white foam against the shore. Out of this tussle emerged a small brown and bleeding squirrel who was being chased by an enormous pike or northern jackfish. The water was red with blood and the squirrel seemed extremely cold. We picked him up with the paddle and put him on the shore but we never tried to catch the pike. We couldn't though, because we didn't have our fishing rods with us.

**NOTE:** The pike is a carnivorous animal. He is known to prey upon ducklings and sometimes even full grown ducks. As Jan's story indicates, the pike will attack a squirrel too if it should happen to be in the water.



# An Observation of the Domestication of Aphids by Ants

By Tom Gentles, Regina.

Last summer I observed a particularly interesting colony of ants in Snake Bite Valley southeast of Beechy. This creek is actually a gorge from 150 to 200 feet deep, with very steep sides, draining into the South Saskatchewan River. Bear Paw shale outcrops along the valley walls from fifty feet below the top down to the bottom. In many places the Bear Paw shale is covered by a thin mantle of glacial debris which has probably slumped down from higher up on the escarpment. Wherever this thin layer of clay covers the Bear Paw shale, hoary sage-bush grows in profusion.

At one point I noticed that ants had apparently infested a considerable number of the hoary sage-bush plants. I thought this peculiar since it was doubtful that the ants would actually feed on that type of plant. On checking closer I noticed that the sage-bush was also infested with aphids. I remembered reading that ants sometimes domesticated aphids and lived on a liquid secreted by them. However, I had never realized that this might occur right here in Saskatchewan. It seemed a good opportunity to study the matter a bit more thoroughly so I spent a few hours observing the action of the ants.

The ants had their nest at the bottom of a slope about half way down the north side of the valley. Leading from the ant nest were five distinct trails or highways. Two of the trails led directly to live sage-bush plants on which aphids were pastured. Two led to dead sage-bush plants but continued past them to living sage-bush beyond. These latter bushes were also infested with aphids. The fifth trail led to a patch of snowberry bushes and apparently ended there. The trails themselves were one to two inches wide and had been cleared of all the usual debris of the prairie floor. Some of the trails were over 30 feet in length. They had been so well cleared of all rubble that the course of the path could be seen from a considerable distance. A check at several points along the

path showed that there were between 10 and 20 ants on each foot of the path. At first glance the movement of the ants appeared to be quite at random. However, after I had watched for a while it soon became evident that this movement had a definite purpose. Some of the ants were progressing away from the nest towards the sage-bush and others which had been at the sage-bush were going back to the nest.

Many of the ants found away from the nest were carrying smaller ants in their jaws. The smaller ants were folded almost double and appeared to be dead. However, I found out later that this was not so. When these outward bound ants were mildly disturbed with the point of a pencil they did not drop the ants they were carrying but left the trail and tried to hide in the grass and leaves beside it. The other ants on the pathway were definitely antagonistic toward the pencil and attacked it vigorously. They did this by rushing up to the pencil, bracing themselves with their four rear legs and lifting the front part of the thorax and head and trying to bite the pencil with their mandibles. I noticed that they did not do this when an unburdened ant was molested with a pencil, only when one of the carrying ants was disturbed. The ants which were being carried were apparently quite healthy because when they were forcibly removed from the mandibles of the bearers they would rush around just as rapidly as the others. I could see no particular reason for some of the ants being carried along the path. The ones being carried were definitely smaller than the ones doing the carrying so perhaps the big ones were carrying the smaller ones to conserve on total energy expended.

At many points along the pathway I could see small but recognizable insects and parts of insects being carried to the nest. There were beetles, grasshopper legs and small green worms among the many particles of succulent food being transported to the lair.



It was a simple matter to check the speed with which the particles of food were being moved. A great deal depended on the size of the object being carried, of course, but several checks indicated that the average speed was about four feet in ten minutes. Coming from the end of the longest trail would take an ant well over an hour. How long was spent in transporting the insect from where it was caught through the veritable jungle of foliage to the beginning of the trail, it was impossible to judge.

The sage-bush plants were two or three feet in diameter and the same in height. Each tip of the sage-bush was literally covered with aphids. The aphids themselves ranged in size from tiny new born ones which could barely be seen with the naked eye to ones larger than a pinhead. The ants were also on every single tip of the sage-bush. They were much less numerous than the aphids, of course, but there would still be 10 to 20 ants on every tip. The aphids would number about 500 on each tip. The ants appeared to be rushing around on the sage-bush without any definite purpose; however, every once in a while an ant would stop near an aphid, apparently checking on the production of food. I read up on this later. A considerable number of detailed studies have been made of this by some quite learned observers. The excrement of the aphids is very sweet and it is this sweet secretion that the ants feed on. Ordinarily the secretion is thrown off into the air in tiny droplets. However the aphids are domesticated by the ants, the secretion is retained by the aphids until an ant arrives. The ant strokes the body of the aphid until the aphid is induced to give up a tiny drop of sweet solution. The ant then drinks this and moves on.

From what could be observed, this secretion of the aphids and the insects the ants manage to catch were the only sources of food. It might be interesting to calculate just how many aphids are required to supply the food for a certain number of ants. It was possible to calculate the number of aphids by counting the ones on one tip, then multiplying by the number of tips on the bush and then again by the number of bushes



*Photo by R. W. Fyfe*

Ants and aphids on the hoary sage-bush.

on which the ants were raising the aphids. By this means it was estimated that there would be a minimum of 20,000 aphids being raised by the one nest of ants. This observation was made in June so it is quite likely that the number of aphids would greatly increase later on in the year. It was impossible to estimate the number of ants.

The aphids must give off a considerable volume of the sugary secretion used by the ants since it once was a source of food to savage peoples. Usually nomadic tribes were consistently short of a sugar supply and utilized every possible source. In some parts of the world aphids live in great numbers on trees. It is recorded that sometimes the secretion of these aphids could be felt as a fine mist on the face. For this reason, the secretion has been called honey dew. The savages would spread skins beneath a tree which was infested by aphids and then proceed to shake the tree vigorously. The secretion would then fall on the skins from which the honey dew could be scraped.

Since first noticing this phenomenon in June, I have made similar



observations in other places in the province. This phenomenon is quite prevalent south of Moose Jaw and also at Bateman. In these other places, though, the operation did not seem nearly as well organized. There were no trails leading from the nest to the bushes and there were fewer aphids in proportion to the ants. In these cases it is quite likely that the aphids serve only as a secondary source of food for the ants.

I also noticed aphids on the hoary sage-bush only when there were ants living in symbiosis with them. I was able to deduce from this that the aphids are kept over winter by the ants in their ant hills and

that in the spring when the sap starts to flow, the ants place them on the bushes. This phenomenon shows that ants have an ability almost equal to that of human beings for utilizing their environment to produce food. It is known, too, that many ants keep gardens of fungus growing in their nests as a dependable source of food, and that other ants raise slaves to help them secure food. It is interesting to think that the rather complex form of the ant community has been in existence for many years—indeed students of paleontology have fairly well established that ants and aphids lived in harmony sixty million years ago.

## MAMMALOGIST APPOINTED TO THE STAFF OF THE UNIVERSITY OF SASKATCHEWAN

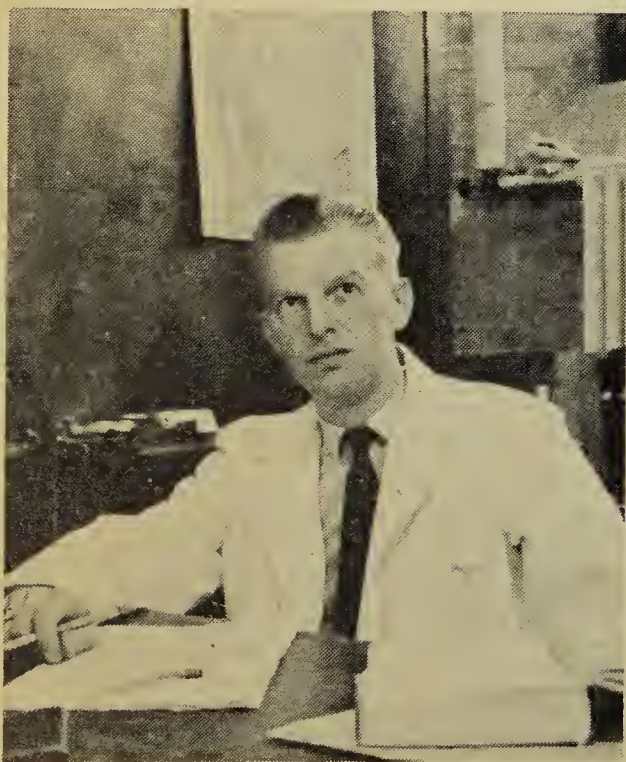
Members of the Saskatchewan Natural History Society who attended the annual meeting in Saskatoon had the pleasure of hearing a talk on animal populations by Dr. R. S. Miller, newly appointed Assistant Professor of Biology at the University of Saskatchewan. We hope that we may see him at many of our meetings and that we shall often see his name in the **Blue Jay**.

Dr. Miller was born in Cleveland, Ohio, and spent five years in the U. S. Air Force before attending university. He obtained his B.A. from the University of Colorado in 1949 and his Ph.D. from Oxford in 1951.

From 1952 to 1955, he instructed at Harvard in elementary zoology, general ecology and population ecology. From 1955 to 1958, he was associate biologist at Colorado State University doing research on small mammal populations, primarily on pocket gophers (*Geomyidae*).

Dr. Miller has published research papers on the activity rhythms, food habits, population changes and movements of the Field Mouse (*Apodemus sylvaticus*) and of the Bank Vole (*Clethrionomys glareolus*); he has also studied the rate of growth of incisors of pocket gophers and the effect of crowding on longevity of adult *Drosophila melanogaster*. He continues to be interested in population studies of small mammals with special emphasis on the theory of competition in population ecology. Dr. Miller has completed research which he hopes to publish soon on the competition between two closely related species of *Drosophila* and on the ecology and distribution of pocket gophers of Colorado.

In his speech at the annual meeting Dr. Miller made a strong plea for complete and careful scientific study of all the possible effects of any human attempt to control or limit the population of any animal. People who are interested in mammals will be glad to know that there is a mammalogist in the Biology Department of the University to give help and guidance to the amateur.



Richard S. Miller



# A New Saskatchewan Bat

By Robert W. Nero, Saskatchewan Museum of Natural History.



SMALL-FOOTED MYOTIS

Photo by F. W. Lahrman.

The Small-footed Myotis (*Myotis subulatus*), hypothetical for the province on the basis of a record in south-eastern Alberta, can now be added to the Saskatchewan faunal list. One of the three bats obtained by Albert S. Swanston and Bruce A. McCorquodale on July 12, 1958, in the South Saskatchewan River valley north of Stewart Valley has been identified as this species. Confirmation of this identification and subspecific determination as *M. s. subulatus* (Say) was kindly made by Dr. R. L. Peterson, Curator, Department of Mammalogy, Royal Ontario Museum. The other two bats were a Little Brown Bat (*Myotis lucifugus*) and a Big Brown Bat (*Eptesicus fuscus*): all three bats were found in the crevices of sandstone rocks which were being split open in the course of a search for fossils.

The present record brings the total list of Saskatchewan bats to seven; the others are: Keen's Myotis (*Myotis keenii*), Silver-haired Bat (*Lasionycteris noctivagans*), Red Bat (*Lasiurus borealis*), and Hoary Bat (*Lasiurus cinereus*).

*Myotis subulatus* has been known variously as the Masked Bat, Say Masked Bat, and Least Myotis. The name Small-footed Myotis has been adopted as a common name for the species by a special committee of mammalogists (E. R. Hall *et al*, 1957. Vernacular names for North American Mammals north of Mexico. University of Kansas Misc. Publication No. 14:1-16). The Small-footed Myotis is generally slightly smaller and has a much smaller foot than the common Little Brown Bat. It has long silky hair which is pale yellowish-brown and it has a rather distinct black face and ears, which give it a masked appearance. The species ranges from southern Texas to California, to southern B.C. and Alberta and now Saskatchewan. A disjunct population (and a different subspecies) occurs in the eastern United States and it has been found in Ontario and Quebec. *Myotis subulatus subulatus* occurs on the arid plains from Kansas and south-eastern Colorado north to south-eastern Alberta and south-western Saskatchewan (Anderson, R. M., 1946. Catalogue of Canadian recent mammals; and others).



# Additional Pocket Mouse Records

By ROBERT W. NERO, Saskatchewan Museum of Natural History

Records of the Olive-backed Pocket Mouse (*Perognathus fasciatus*) are now available for 13 Saskatchewan localities in addition to those previously reported (see Nero, 1957). Several of these localities represent northern range extensions and include first records of Pocket Mice north of the South Saskatchewan River. These new records are tabulated below and indicated on the map.

Locality	Date	Number	Collector
Quantock	May 6, 1958	1	A. Swanston
Regina Beach	May 11, 1958	1	H. Boswell
Beaver Creek (9 mi. S. Saskatoon)	July 7, 1958	3	R. W. Nero
Moon Lake (5 mi. SW Saskatoon*)	July 8, 1958	1	R. W. Nero
Grandora (2 mi. NE)**	July 10, 1958	1	R. W. Nero
Swanson (4 mi. E)	July 11, 1958	10	R. W. Nero
Elbow (6 mi. SE)	July 15, 1958	7	R. W. Nero
Elbow (4 mi. SW)	July 14, 1958	2	R. W. Nero
Old Wives	July 25, 1958	10	R. W. Nero
Corval	July 24, 1958	2	R. W. Nero
Weyburn (2 mi. SE)	Aug. 14, 1958	1	T. Walker
Hatfield (7 mi. W)	Sept. 12, 1958	1	F. W. Lahrman
Eyebrow Lake	July 22, 1949	1	W. H. Elder

\* First record north of South Saskatchewan River.  
\*\* Northernmost record—north of 52 parallel.

All specimens except the Eyebrow Lake and the Weyburn records are available in the collections of the Saskatchewan Museum of Natural History. The July 7 to July 14 records were obtained as the result of a deliberate attempt to collect Pocket Mice to determine the northern limits of their range. We are indebted to Fred G. Bard, Museum Director, and Roy G. Young, Director, Conservation Branch, Department of Natural Resources, for their recognition of the value of basic faunistic surveys and the role of the Museum in this regard. Fred W. Lahrman accompanied me for the two weeks field work in July, providing necessary assistance and welcome companionship. An important population sample was obtained at Old Wives later in the month with the aid of Bard and Lahrman during our "off-duty hours" while on a bird-banding trip (if young pelicans can still be termed birds). Bruce Shier and Ralph Ostoforoff assisted in a search near Regina.

Previous experience with Pocket Mice at Sceptre in 1956 (see Nero and Fyfe, 1956) showed that they could readily be located and captured at night in the headlights of a vehicle, thus permitting a fairly rapid check of a large area in one or two nights. Because of the efficacy

of the night-driving method it seems worthwhile to describe it in some detail. We used soil maps to locate sandy areas outside of the known range and then spent a considerable amount of time searching within these selected areas for what we considered suitable habitat. For the most part we looked for field roads—simply two sandy ruts bordered and divided by weeds—in or near prairie or pasture cover-types (see photo). Pocket Mice appear to be attracted to roads of this sort because of the abundance of weed seeds. The bare ruts, on the other hand, allowed the observers to see the mice. Having located several miles of suitable roads we then waited until dark to commence driving. During July we usually began at about 10.30 p.m. (dark enough at 9.30 p.m. in August) driving at 10 to 15 m.p.h. or even slower while keeping a close watch for mice. Once a mouse was sighted—a mouse of any kind—"Mouse!" or "Stop!" produced a rapid reaction: the driver at once slammed on the brakes, put the gears in neutral, pulled up the hand brake and jumped out. By this time the other person was already out and spotting or attempting to spot the mouse with a flashlight. The ensuing scene—as two grown men attempted to capture by hand a frightened, leaping and running mouse—was often bedlam.





Photo by F. W. Lahrman.

Typical habitat of the Pocket Mouse

Still, the method worked; in addition to Pocket Mice several each of the following were captured: Deer Mouse (*Peromyscus maniculatus*), Grasshopper Mouse (*Onychomys leucogaster*), and Pocket Gopher (*Thomomys talpoides*). The number of Pocket Mice seen and collected far outnumbered these other species and on some nights one might have said that Pocket Mice were the most numerous species. We also saw White-tailed Deer (*Odocoileus virginianus*), Mule Deer (*Odocoileus hemionus*), Mink (*Mustela vison*), Porcupine (*Erethizon dorsatum*), Skunk (*Mephitis mephitis*), and, of course, house cats (*Felis domesticus*). Admittedly, the night-driving method is not as easy as it sounds. By two or three a.m. it's difficult to keep alert and the constant scrutinizing of the roadway has a hypnotic effect. But even when there are no mice there is a fascination in prowling about the fields with carlights—the silver-blue sheen of sage and wolfwillow in the dewy hours before dawn are a sufficient reward. Now, whenever we drive through sage, I think of Pocket Mice, so often was the scent of crushed sage associated with the night when we caught them.

By means of the technique described above we were also able to obtain some indication of the frequency of occurrence of Pocket Mice. For example, we saw and collected but one Pocket Mouse during more than eight hours (two nights) of night driving in an area up to 12 miles north of the highway between Grandora and Asquith, whereas at Swanson we caught 10 in about three hours and at Old Wives collected five and saw three others in one hour. This, in spite of the fact that the Grandora-Asquith area contained particularly good-looking habitat. Obviously, Pocket Mice could not be expected much farther north since it is only a few miles to the forest edge, but this low frequency indicates a low density and suggests a population fringe. The one mouse which we finally captured near Grandora on the second night was taken—much to our astonishment—on a road in the center of a large aspen bluff! This mouse missed escaping us by a few inches, but now it represents the northernmost record of the species and genus as well.

The night-driving technique, it seems to me, provides a good check on the occurrence of the Pocket Mouse and offers an opportunity for

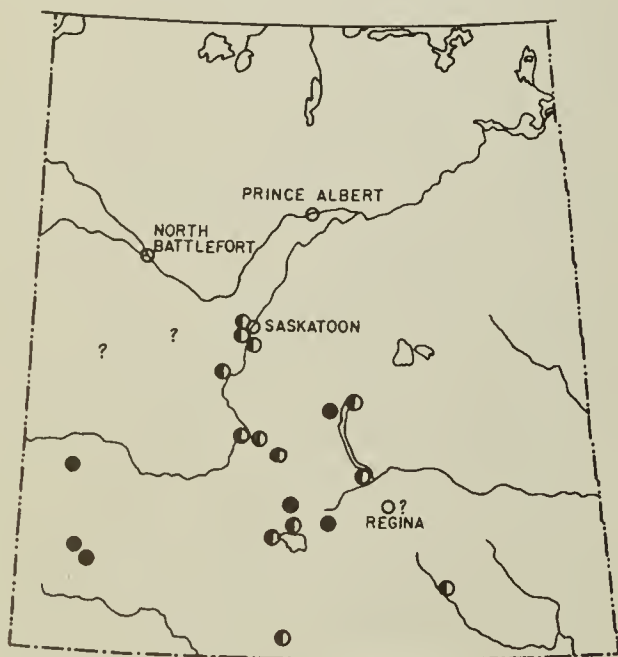


plotting negative as well as positive results. On this basis I am led to conclude that Biggar lies outside of the range, since we failed to see any there in five hours of night-driving (July 17, 1958), although again in very suitable habitat. Likewise, we drove on three different nights 10 miles east of Regina for a total of about eight hours (August 7, 13, 16, 1958) and yet failed to find a single Pocket Mouse. I think, too, that Dodsland probably lies outside of the range: three hours' search there on June 22, 23, 1958, produced negative results. (There should be some fun in attempting to disprove these records.)

When first captured our Pocket Mice frequently emitted a high-pitched squeaking and some attempted to bite but were unable to penetrate the skin of our fingers. Although Pocket Mice are usually rather slow moving, compared to, say, Deer Mice (*Peromyscus maniculatus*), we found considerable variation in this respect between populations. We were especially surprised at Elbow (6 mi. SE), where most of the mice ran furiously. Some were phenomenally fast, often crossing the entire width of the road so fast as to appear more like a small bird in flight. Pocket Mice usually scurry along close to the ground — these fairly zipped. This difference in behavior may have been due to the habitat. At Elbow the road was relatively wide and rather sparsely vege-

tated; at Swanson, where the mice were rather slow-moving, the road was quite narrow and bordered by dense stands of weeds. At Old Wives we again noted unusually rapid movement; more mice were lost there than anywhere previously. The cover varied from open prairie to dense snowberry. We noted also at Old Wives a number of Pocket Mice leaping an estimated three or four feet and changing direction when closely pursued for some distance. These were being chased in heavy cover. A similar behavior has been reported for other species of Pocket Mice: "When suddenly disturbed or when frightened, pocket mice typically initiate a series of powerful leaps in which the direction of movement changes repeatedly in an unpredictable manner. Some of these leaps carry the animals 24 inches or more vertically and as much as a yard horizontally. The evasive leaps are so rapid and erratic that it is impossible to follow them by eye." (Bartholomew and Cary, 1954).

The larger samples (see table) were taken from rather localized populations. The 10 we collected at Swanson, for example, were nearly all found along a few hundred yards of road. A possible difference in breeding activity between the populations at Swanson and at Old Wives is indicated by the following data: of seven females from Swanson (July 11), three contained large embryos (5 to 12 mm. long) and one



Pocket Mouse records: previous records—solid dots; new records—half-solid dots.



Northern distribution of the Olive-backed Pocket Mouse (*Perognathus fasciatus*). Based on Jones (1953), Moore (1952) and present records.

Maps prepared by T. Kramer, Surveys Branch, Department of Natural Resources.



was lactating. Only one out of five females from Old Wives (July 25) appeared to be in active breeding condition (lactating). Similarly, males from Swanson appeared more active—three males had testes measuring 8x5, 11x5, and 14x7 mm.; four males from Old Wives had testes measuring 3x2 (two), 5x2, and 7x3 mm. Whether this is indicative of a sub-species difference is uncertain, but that this may be the case seems possible especially considering the barrier imposed by the South Saskatchewan River. Further comparisons of these samples, based on skull measurements, etc., will be necessary in order to solve this problem.

Stuart Criddle stated (1915:131) that in Manitoba "the young are born about the middle of May." Bailey records a female with embryos on May

13 in North Dakota and states: "There are no data to indicate more than one litter in a year." (1926:121). The above breeding data, however, especially the three females with embryos on July 11 suggests that this species may have two litters per year.

The complete distribution of the Pocket Mouse in Saskatchewan and adjacent areas is still unknown. There is a considerable area in which an attempt should be made to collect the Pocket Mouse to determine the outer limits of its range and, of course, it would be desirable to know the complete and exact distribution within this range. It is hoped that the present records and the description of our "hunting" technique will encourage others to obtain further specimens.

#### LITERATURE CITED

- BAILEY, V. 1926. A biological survey of North Dakota. *North American Fauna*, No. 49, 226 pp.  
 BARTHLOMEW, G. A. Jr. and G. R. CARY. 1954. Locomotion in Pocket Mice. *Journal of Mammalogy*, Vol. 35, 386-392.  
 CRIDDLE, S. 1915. The Banded Pocket Mouse, *Perognathus fasciatus*. Wied. *The Ottawa Naturalist*, 28:130-134.  
 JONES, J. K. Jr. 1953. Geographic distribution of the Pocket Mouse, *Perognathus fasciatus*. Univ. Kansas Publ., Museum of Natural History, Vol. 5 (29):515-526.  
 MOORE, J. E. 1952. Notes on three additions to the rodent fauna of Alberta. *Canadian Field-Naturalist*, 66:142-143.  
 NERO, R. W. 1957. The Pocket Mouse in Saskatchewan. *Blue Jay*, 15:172-173.  
 NERO, R. W. and FYFE, R. W. 1956. Kangaroo Rat colonies found. *Blue Jay*, 14:107-110.

## *A Guide to Saskatchewan Mammals*

by  
W. H. BECK



SPECIAL PUBLICATION NO. 1  
 SASKATCHEWAN NATURAL HISTORY SOCIETY  
 REGINA  
 1958

## ANOTHER RACCOON RECORD

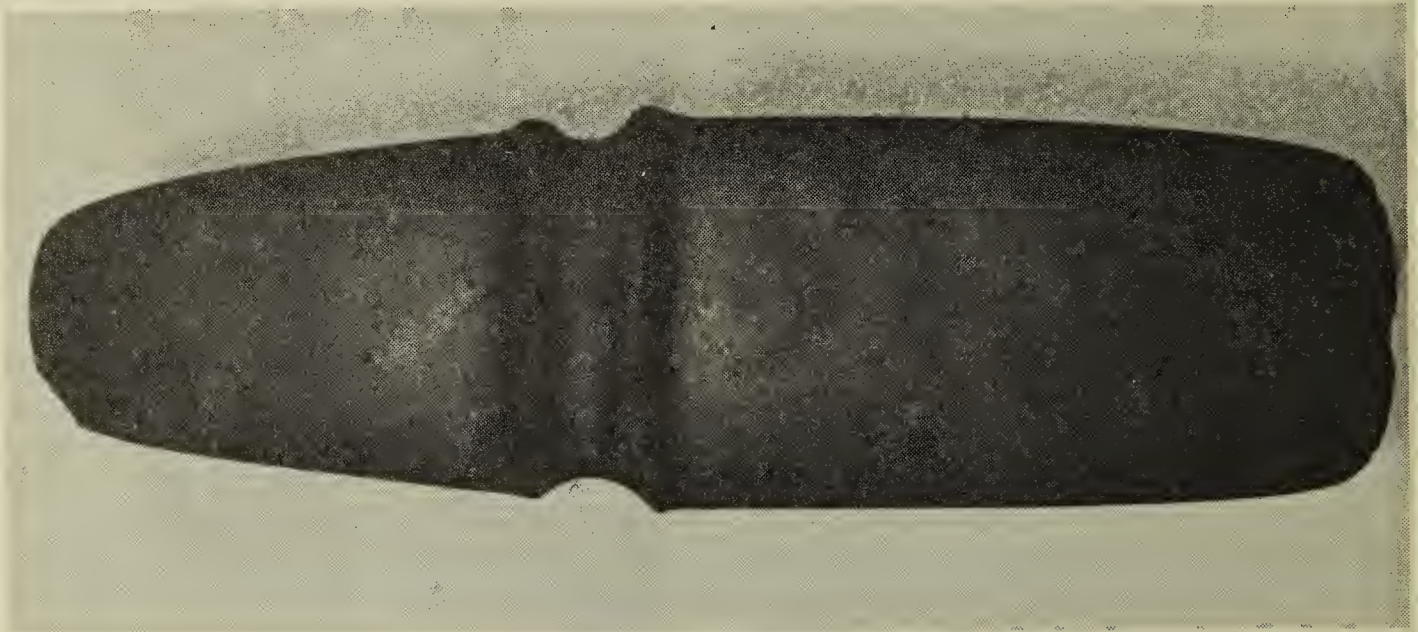
On September 6, 1958, an adult raccoon was found by Merwyn Johnson while combining in a field located about three miles east and one and a half miles south of Kindersley, Sask.—Glen R. Fox, Kindersley, Sask.

The attractive bulletin pictured here is the first special publication of the Saskatchewan Natural History Society, Harvey Beck's *Guide to the Mammals of Saskatchewan*. The *Guide* contains keys to the mammals of Saskatchewan, descriptions of the mammals and indications of occurrence and distribution. The price is only 50 cents. We suggest you consider the bulletin as a Christmas gift for friends interested in natural history. Order from E. L. Fox, 1053 Gladmer Park, Regina.



## Unusual Stone Axes

By **Bruce A. McCorquodale**, Saskatchewan Museum of Natural History.



BROADVIEW AXE

*Photo by R. W. Fyfe*

The above illustration shows an unusual stone axe which was found in 1955 in a field (NW $\frac{1}{4}$ -35-15-6-W2) by Mr. Sid Fathers, Broadview, Sask. Mr. Father's courtesy and consideration in loaning the axe to the Museum made it possible to photograph it (see **Blue Jay**, Vol. 16:135 and back cover). The author is indebted to Leslie Beck, Department of Mineral Resources, for assistance in the analysis of the rock composition.

The material from which this artifact has been made is a dense, highly consolidated and slightly metamorphosed sandstone to which the name "greywacke" can be arbitrarily assigned. Field stone or greywacke occur in the glacial drift in the eastern half of Saskatchewan. Greywacke probably represents a sediment of Pre-Cambrian age and must have originated in a formation in an unknown locality in northern Manitoba or northern Saskatchewan. This material seems to be well suited to production of large artifacts. It has an amorphous structure with little or no indication of planes of fracture. It is dense, fine grained and soft enough to be easily shaped by pecking or grinding but hard enough to resist breakage and erosion. It readily absorbs greases and oils so that ordinary handling of the material will change its normal grey colour to black. Because of the black-stained surface of this axe it

is easily mistaken for a basic volcanic rock.

This specimen exhibits damage only in the form of one large chip removed from the upper end and four small chips removed from the lower or cutting end. Although it may appear to be double-bitted in the illustrations, only the longer end has been sharpened. The smaller end has been smoothly rounded on its edge suggesting that its prime function may have been to provide balance to the axe. For the purposes of this description I have designated the smaller end from the flanges outward the "poll," and the other end from the flanges outward the "bit."

The axe has a highly polished surface everywhere except in the groove between the flanges. In the groove there is indication of only minor polish on a coarse surface texture which suggests that pecking was the technique used in shaping the groove, as well as the whole axe. Prominent areas of polish within the groove, most noticeable near the larger notch, probably evidence movement of the axe within its handle or binding. The larger size and lack of confluence with the groove suggest that the concentric notch (uppermost in illustration) accommodated the end of a handle. This is substantiated by a pronounced flattening of the face of this notch.



The faces of the poll and bit form shallow, even curves in both lateral and longitudinal cross-sections. The side edges have been flattened to a width of 5-6mm. for the greater part of their length and taper down quite abruptly near their ends. All evidence of original shaping technique has been erased during the process of polishing. However, examination by microscope has yielded information about the finishing method employed by the maker. The abrupt juncture of the polished top rim of the flanges with the unpolished groove indicates that the axe may have been hafted before the final polishing process was applied. This juncture would be less distinct if the groove had not been occupied by a binding while an abrasive was being applied to the adjacent surfaces. Surface scratches indicate that both fine and coarse grit were used in the finishing process. A fine abrasive was used for the final polish of the faces of the poll and bit. In all determinable instances the polishing strokes seem to have been applied from the flanges outward in a direction parallel to the longitudinal axis. On the poll these strokes passed over and around the end, thus producing a rounded effect at the apex. In the angles between the flanges and faces of the poll and bit, were observed coarse scratches paralleling the flanges. These had been partially removed by the finer abrasive used in the final polishing of the faces.

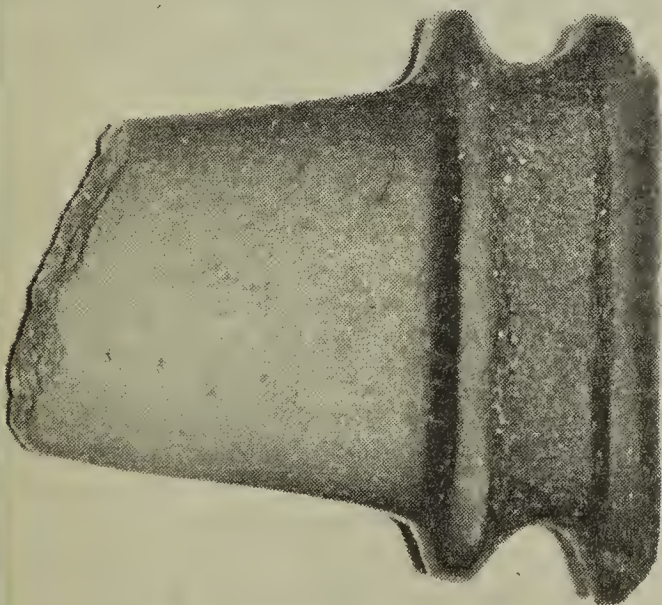


Photo by R. W. Fyfe  
Erickson Axe

Superimposed scratches indicate that sharpening of the cutting edge of the bit was the final act of finishing. A coarse abrasive was used for this, in a direction parallel to the cutting. On both faces the area is approximately one-half inch in width.

An incomplete stone axe (see photograph) which appears to have the same basic form as the axe described above was found by Mr. J. Chaydor near Erickson, Manitoba on NW $\frac{1}{4}$ , 8-17-18W1. It was received by the Saskatchewan Museum of Natural History through the courtesy of Mr. W. Blight, Regina, Saskatchewan, on September 19, 1952, and has been placed in the Museum's archaeological collection under No. 5577.

Since the end of one blade is missing it is not possible to determine definitely whether the remaining blade represents the bit or the poll of the axe. However the high degree of taper of the sides leads the author to regard this end as the poll of the axe. This is further substantiated by the relatively greater width of the base of the missing blade at the point of fracture.

Although this specimen is not complete enough to permit a comprehensive comparison, the similarities between this fragment and the complete axe described above are very striking. Both are composed of greywacke and have the same high polish on the surface of the poll and flanges, the same unpolished surface in the groove and the same flattened side edges on the poll. Their differences are of minor significance. The incomplete axe appears to have been larger and lacks the crescent notch evident on one side of the other specimen. There is only slight evidence of the polishing methods employed in finishing this axe. However, where discernible, surface abrasions would seem to indicate that a similar method was employed to finish both axes.

Only one other similar axe has come to the attention of the author. It is a slightly longer axe of similar form and material found by Mr. E. B. Dimmock on his ranch 10 miles south of Tompkins, Saskatchewan, and examined by the author a few years ago.

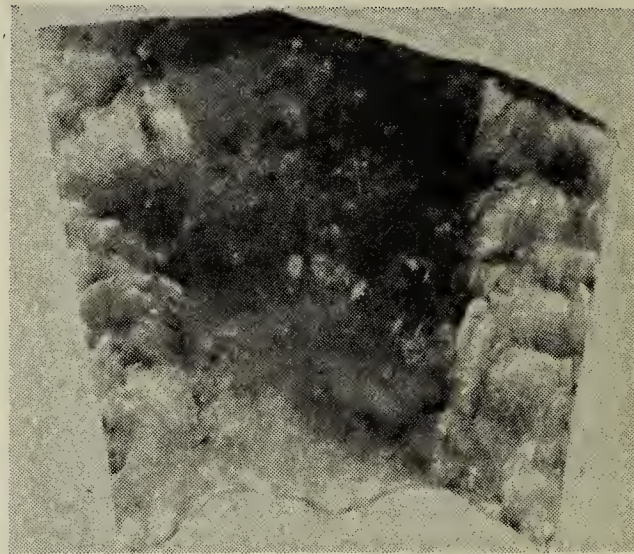
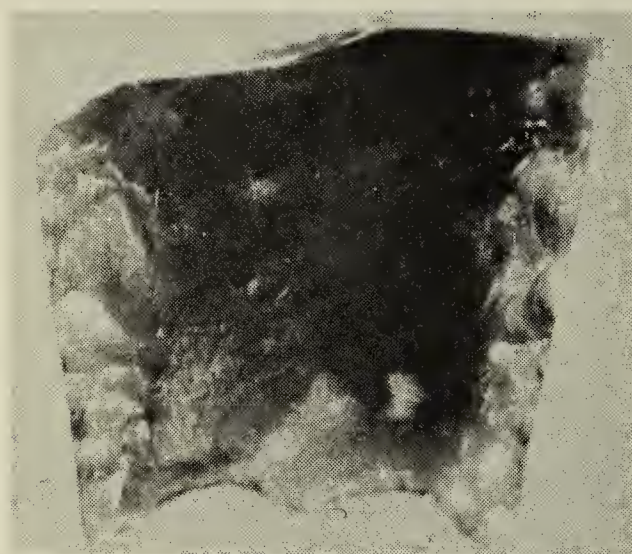
Additional information concerning similar artifacts will be welcomed by the Museum.



Comparative Dimensions (in mm.) of Broadview and Erickson Axes

	Broadview Specimen	Erickson, Man. Specimen
Length .....	316.0	126.0 (incomplete)
Maximum thickness (apex of upper flange).....	29.0	34.5
Maximum thickness of bit (base of flange) .....	19.5	
Maximum thickness of poll (base of flange).....	19.5	22.0
Maximum width (apex of lower flange) .....	96.0	117.0
Maximum width of bit (base of flange) .....	92.5	
Maximum width of poll (base of flange) .....	85.5	84.0
Width of cutting edge .....	73.0	
Weight .....	1093 grams	

RARE FLUTED POINT FOUND



Photos by R. W. Fyfe

The above photographs show the two sides of a basal fragment of a fluted projectile point of the classic Folsom type (2 x natural size). This was recently submitted to the Museum for examination by Stanley M. Durr, Bromhead, Saskatchewan. It was found by Mr. Durr on the surface in the Bromhead district.

The point is made from brown chalcedony (Knife River flint); the edges of the base and sides are heavily ground. An extremely skilfull and

well-controlled technique of flint-working is evident. One cannot but admire the artistry of the early hunters of perhaps 10,000 years ago who produced these scarce artifacts.

A few other fluted points have been described in the *Blue Jay* (Vol. 16:42-43) and the Museum has records of fluted points from Jameson, Kamsack, McCord, and Weyburn.—Robert W. Nero, Saskatchewan Museum of Natural History.

ARCHAEOLOGICAL POSITION ANNOUNCED!

Word has just been received that the Museum has been granted approval of its request for a curatorial position in archaeology and ethnology. The position is already being advertised and it is hoped that an appointment may be made after January 1, 1959. This is an important event in the development of the Museum since this is the first official research position to be established.

This augurs well for the acceptance of our Museum as a scientific institution. We look forward with anticipation to an orderly development of

archaeological research. It seems highly likely that this programme will yield considerable information about the prehistory of mankind in the Northern Plains. Archaeologists throughout North America have already expressed a strong interest in the three scientific excavations which have been conducted in Saskatchewan. Dr. H. Wormington has suggested that this region may hold the key to the prehistory of the Plains. Congratulations to the Museum and the Department of Natural Resources. — Editor.



# Sputnik Three Rocket Carrier Sighted

by Keith D. Baker, Weyburn



Photo by K. D. Baker

The above, 72 second, time exposure of the Sputnik III rocket carrier was taken at f4.5 on Kodak RoyalXPan sheet film, Graphic '23', on the night of August 12, 1958, at Weyburn. I was directing a meteor observation group here, under the direction and encouragement of John Hodges and the Regina Astronomical Society. We were fortunate enough to see the sputnik carrier several times and I was able to take the above photograph which was published by the *Weyburn Review*.

The satellite carrier was seen August 12 for several minutes starting at 10.46 p.m.; August 13, 10.35 to 10.41 p.m. and again shortly after midnight; August 14, from 10.22 to 10.31 p.m.

The satellite carrier appeared as an intermittent pulsing light about 8 seconds on and 8 seconds off. The light on each pulse came on slowly, peaked to full brilliance and then gradually faded. The light could be seen again sooner if one was using binoculars and the light could be seen longer and the dark period was shorter when the carrier was directly overhead. The light is due to the sunlight reflected from the shiny surface of the carrier as it tumbled over and over.

John Hodges tells us that the carrier was somewhat ahead of the satellite which it had put into orbit. The satellite could not be seen with the unaided eye but could be made out with binoculars. The satellite weighed 2,925 pounds and had an orbit varying from 150 to 1,170 miles from the earth's surface. It may stay in orbit for about six months.

## What Can The Astronomer and Archaeologist Tell Us About Climate?

by John Hodges, Regina

Archaeology and astronomy are both contributing information about the earth's climate. This is part of the story of how that interesting and important relationship developed. It could possibly affect you and it does most likely affect the abundance of wildlife.

Some of this story was written as early as 1923 by Dr. A. E. Douglass, who was an astronomer. He was then director of Steward Observatory, University of Arizona, and yet he was invited to study trees. Dr. Douglass received this unusual invitation not because he wanted to be a biologist but because he was the world's



leading scientist studying sunspots. It had been known for some time that sunspots waxed and waned in an eleven-year cycle. Dr. Douglass welcomed the opportunity to investigate the rings in trees to see if an eleven-year cycle was recorded in their growth. In brief, did solar changes affect our weather?

He chose the Arizona pine for study, for here was a tree that reliably grew one ring for each growing season; thin if during drought, thick if rainfall had been plentiful. He used cores taken from living trees and also from the beams the Indians of the southwest used in constructing the roofs of their homes. By matching the spaces between rings of growth he succeeded in determining the dates when the beams had been cut. An astronomer had made a remarkable contribution to archaeology. He had found an unusual but sure method of dating the pueblos of the southwest.

Dr. Douglass found that a cycle did exist in the tree rings. His record was complete from 700 A.D. to the present. Only one period of rings, for 75 years beginning at 1650, did not appear to have any cycles.

Dr. E. Walter Maunder, an eminent English astronomer, wrote Dr. Douglass that a search of early observatory records revealed an unusual fact. No record existed of sunspots being observed from 1645 to 1715. He stated that if the tree rings being studied by Dr. Douglass failed to reveal this gap, then the cycles in the tree rings must have some other cause. He did not then know of the gap in the cycle in the annual rings of the Arizona

pine. This confirms the idea that sunspots affect the growth of trees because of variation in weather following the sunspots cycles.

The foregoing is not the only reason to suspect that climatic changes, and astronomy and archaeology are intimately related. Saskatchewan has recently contributed information from its sands and clays.

In 1954, Mr. Boyd Wettlaufer, archaeologist and geologist, conducted an excavation at Mortlach. Great importance was placed on the type of material in which each artifact was found. His report revealed that climate had played an important part in depositing the layers of material in the Besant Valley. Mortlach is a stratified site with each layer lying relatively undisturbed on top of an older layer. It proved to be a book holding between its covers the story of past climatic conditions as related to the occupational levels of peoples who lived there when they could.

Saskatchewan is rich in sites once occupied by man. They await investigation. An intensive archaeological programme in Saskatchewan might do much to explain man's past and predict his future. Already sites have told us that man lived here 5,000 years ago. Unlike the archaeologist's files, the astronomer's only go back a few hundred years. They show us that the sun is responsible for influencing our climate. Only study will reveal how and why. There is a fascinating story to be written, that of the battle of man and climate in which the sun plays a determining role.

## S.N.H.S. CHRISTMAS CARDS AND HASTI-NOTES

Although it is late in the season, we remind you again of the S.N.H.S. Christmas cards and hasti-notes. The Christmas cards are available in one design only — Boggy Creek winter scene (Kodachrome by Richard Fyfe); the hasti-notes in two designs

— either the Boggy Creek winter scene or the Western Red Lily (Kodachrome by Fred Robinson). Christmas and hasti-notes are both priced at \$1.25 per dozen. Order from Margaret Belcher, Blue Jay, Regina College, Regina.

## CHRISTMAS GIFT SUGGESTION

For those wishing to send a Christmas gift subscription to the **Blue Jay** we make the following offer. We shall mail a copy of the December issue now, with an S.N.H.S. card announcing the gift, and four regular issues will follow in 1959. To cover the five issues and the sending of the card, the gift subscription rate will be \$1.25. Write at once to E. L. Fox, 1053 Gladmer Park, Regina.



## YOU WERE ASKING?

**Question:** This spring we watched a pair of Robins raise a family of three young. Now what surprised me was that one was pure white. Just before they were ready to fly away, we took the white bird and a second fledgling and kept them under observation in a cage for a short time. Although the parent birds continued to feed them, we did not like to keep them in captivity too long. After we had released them, I noticed the white bird again on several occasions. This is the first time I have seen a white Robin. Is it something unusual? How did it become white? The parents did not discriminate against it. Would it go south with other Robins? Or do you think it would change its colour? — **Mrs. Alice Repchinski, Strong Pine, Sask.**

**Answer:** A few abnormally white or albino specimens are turned in to the Museum every year. Lately we have received an albino mouse, skunk, crow, mallard and even a fish. Such freaks are uncommon in most species and the color change may be due to several causes including disease, injury or genetic change. The factors involved are complex and not well understood in every case. There are records of fowls changing from colored to white, and even back to colored again. There is also a record of a Robin originally banded as a normal bird which later turned white. Albino specimens are always desired for further study and are welcomed by the Museum. Observations as above on the behavior of albinos and the reactions of other birds to them are equally valuable. — **R. W. N.**

## The Blue Jay Bookshelf

### EIGHTY LAND BIRDS TO KNOW

By **Stuart L. Thompson**, Agincourt Ontario, Book Society of Canada Ltd., 1958.

This ninety page book is designed to help the beginner with the when and where of bird study as well as to give him identification clues to eighty birds of the Lower Great Lakes Region. None of the larger

birds of prey, water birds and large game birds are included; however, the majority of the birds included are found in Saskatchewan.

Each bird is illustrated in black-and-white with special field marks indicated. Information is given as to the size, family, appearance, voice, habitat, range, nesting and food. In addition to this there are short sections dealing with how to observe, where and when to watch, equipment to use, and the taking of field notes.

The most interesting feature of this book is a color identification key to male spring plumage. In condensed form, the name of the bird, the page it is found on, its size, habitat and the general impression it makes are given along with six squares of color for each bird showing the head, sections of the back, wing, tail, breast and side. Here at a glance you can see the color characteristics of each bird in comparison with the other birds listed. This color identification key serves as an index to the birds in the book. This should prove useful to the beginner who finds that with most indexes he has to know what the bird is in the first place in order to look it up and this he doesn't know until he has leafed through the book and found it without any help from the index.

The book has its limitations as a field guide since it covers such a small number of birds. This, however, is perhaps of advantage to the beginner who is likely to find a comprehensive field guide somewhat bewildering and would appreciate something simpler. — **Joyce Dew, Saskatchewan Museum of Natural History.**

**Dry-land nest site of a Western Grebe colony.** — By **R. W. Nero, F. W. Lahrman, F. G. Bard.** Reprinted from the **Auk**, 75:347-349, 1958.

In this item from the **Auk**, members of the staff of the Saskatchewan Museum of Natural History (Nero, Lahrman, Bard) report on what seems to be the only record in the literature of a dry-land nest site of the Western Grebe. The dry-land nesting site on the Isle of Bays in Old Wives Lake 30 miles southwest of Moose Jaw was visited by the Museum party in 1956 and 1957. At the time of the first visit (Aug. 8, 1956) about 48 nests were found



in and around a stagnant pond, with 120 others on the ground in heavy rose-bush cover. When the island was revisited in 1957 (June 6, June 13-22, June 26-July 4, July 19-20), the grebes were again nesting under similar conditions. The authors suggest that the grebes adopted a dry-land nesting site because the extensive bullrush beds off the lake shore which formerly harboured large colonies of Western Grebes were submerged as a result of the high water of the past few years.

The account of the nesting sites includes a description of the nests and nest materials and interesting observations of the adaptation of the grebes to their unusual situation. Western Grebes, usually recorded as being able to advance only a few steps on land, here walked readily from the water to their nests up to 75 feet away, even standing erect momentarily.

Six photographs accompany the text — a generous use of illustration for any item printed in the *Auk*. Reprints of this article may be obtained free from the Saskatchewan Museum of Natural History, Regina. — M.B.

### **Annual Report of the Sask. Museum of Natural History for the fiscal year ending March 31, 1957.**

Even those who feel they are fairly familiar with the provincial museum will be surprised to learn from this report what a large field is covered by the different departments of that institution.

Under the heading Repository or organizational activities are described such as storing of collections, sorting and arranging of mammal skins, placing of plant specimens in new storage cabinets, etc. (Those who have contributed specimens will find their names noted under Accessions, p. 106). Among other collections mentioned is one of 600

black-and-white photos and over 400 kodachromes taken by the Museum staff and kept for reference for audio-visual productions.

The section in the bulletin describing Field Work and Research is illustrated by several interesting photos showing staff members gathering fossil material, collecting bats near Estevan, etc. Readers of the *Blue Jay* will be familiar with some of the activities mentioned but the complete list of field work carried on is very impressive.

When staff members are not busy in the field, they are occupied in such pursuits as writing articles giving lectures to societies (or on the radio or TV), or attending conferences. These activities are listed under Extension and Education.

The museum activities which are most familiar to the public such as film programmes, lecture tours, children's programmes, etc., are also described in some detail. A statistical table shows the great number of people who visit the provincial museum and take advantage of its programs. This is the last item in what is to the layman an interesting report. Mr. Bard and his staff must derive a great satisfaction from their many activities, and the public has reason to be grateful for their faithful service to natural history in our province. — M. L.

### **LONG CREEK SITE REPORT DELAYED**

A number of persons have requested copies of this significant archaeological report and we regret to announce that publication has been delayed pending editorial changes. Boyd Wettlaufer, Chichuahua, Mexico, is revising the manuscript though hard at work on a site. Further requests for this report should be made directly to the Saskatchewan Museum of Natural History, Extension Services, Regina. — Fred G. Bard.

## **THE SASKATCHEWAN NATURAL HISTORY SOCIETY ANNUAL MEETING, OCTOBER 17-18, 1958**

by Elizabeth Cruickshank, Recording Secretary

The S. N. H. S. passed its tenth milestone in the beautifully situated, university-favoured, hospitality-

conscious city of Saskatoon. The committee in charge of arrangements for the annual meeting



merited the highest praise of those attending. From the Friday night executive and open house at the Gerrards to the Saturday night meeting in Convocation Hall there was not one moment that was not put to good use.

A. C. McEown, executive assistant to the president of the University, welcomed the gathering Saturday morning in the Murray Memorial Library. A short business session followed with Frank Roy in the chair. In the morning programme, such familiar great names as Franklin and Richardson were heard as Dr. Stuart Houston told of bird-watching in Saskatchewan in the 1820's. Then T. C. Carey, vice-president of the Potash Co. of America, gave a thrilling account of the methods, problems and research involved in putting into operation their potash mine near Saskatoon.

During the lunch interval, members were able to see the display of nature books arranged by Mr. Chapman, of the Saskatchewan News Agency and of Audubon publication brought to the meeting by J. A. Livingston, as well as the admirable nature photographs of Dr. L. G. Saunders and Dr. D. Rawson, and several cases of mounted specimens from the Biology Department's museum.

At the afternoon business session reports were given by representatives of the local clubs and by the chairmen of the following committees: Conservation (Fred G. Bard), Programme (Dr. R. Bremner), Membership (Frank Brazier), Publications (Stuart Houston). The summer and annual meetings for 1959 were tentatively scheduled for Moose Mountain and Moose Jaw, and it was announced that the A.O.U. convention would be held in Regina in August, 1959. At the meeting the first copies were on hand of the society's first special publication, Harvey Beck's *Mammals of Saskatchewan*, making this meeting a red letter day for the S.N.H.S.

The programme hour arranged by the Museum included Elmer Fox's report on the nest records scheme, Richard Fyfe's account of the history of falconry, and the showing of a U.S. Fish and Wildlife Service film on the Whooping Crane. A second hour of the afternoon programme was contributed by the University Department of Biology with Dr. R. Miller speaking on animal populations, E. Reed on the natural history of the Arctic slope of Alaska and Dr. R. Coupland on plant ecology. Members' kodachromes completed the afternoon, with contributions by Jim Hogg, Tony Capusten, W. Yanchinski, Dr. L. G. Saunders, and Dr. S. Houston.

At the evening meeting, John A. Livingston, executive director of the Audubon Society of Canada, spoke of preserving nature's balance. Because of the interdependence of all living things, he suggested that nature's balance is never static—it is a swinging balance. All so-called predators take whatever food is available to them. The cropping off of the most easily caught prey, however, leaves the strongest to carry on the species.

E. T. Jones and C. G. Hampson of Edmonton gave a condensed version of one of their popular Alberta wildlife tours, showing magnificent pictures of predators that must have been exceedingly difficult to take. Prof. Hampson's kodachromes and Mr. Jones' film, had a rapt and entertained audience. At the meeting they complimented Saskatchewan on its unique conservation organization. Members of our society were pleased to learn that when Hampson and Jones returned to Edmonton the following day, taking Jack Livingston with them, they had the great good fortune to see four Whooping Cranes in the Langham area.

The meeting ended with a demonstration of falconry, and the young people present crowding around Mr. Fyfe and his young falconers.

## REGISTRATION AT THE ANNUAL MEETING

Registered at the annual meeting of the Saskatchewan Natural History Society, October 17 and 18, were 104 persons from 22 points in Saskatchewan and four special guests from Toronto and Edmonton. SASKATOON: H. Beck, P. Cordery, Eleanor Hanna, Gloria Domanl, Mr. and Mrs. Folker, Mr. and



Mrs. T. Carey, T. Wedge, R. Bremner, F. Roy, Joan Anderson, J. Shadick, Dr. and Mrs. D. S. Rawson, Janice Briggs, J. H. MacLennan, Lillian Headley, D. Weatherhead, Mr. and Mrs. J. D. Hogg, L. C. Paul, B. Cushing, R. S. Miller, Dr. and Mrs. J. Gerrard, J. A. Slimmon, L. G. Saunders, D. R. Robinson, T. S. Phenix, Mr. and Mrs. F. E. Walt, H. Dommasch, Mrs. M. Evans, E. B. Reed and family, Mrs. H. Robinson, Mrs. M. Fearer, F. M. Atton, A. L. Robinson, J. Hunter, Beth Hunter, Laurie Hunter, Peggy O'Neill, J. G. Fyfe, R. Mills, R. Coupland, B. Gollop, A. Dzubin, Mrs. T. Ortynski, Mr. and Mrs. G. Shepherd; REGINA: B. C. Shier, Dr. and Mrs. G. F. Ledingham, Mrs. E. Cruickshank, Mr. and Mrs. B. Knox, E. L. Fox, Lucy Murray, Margaret Belcher, Fr. F. J. Peters, F. Brazier, W. Knudsen, R. Knudsen, R. Robinson, R. McCall, H. Erickson, C. Willway, F. G. Bard, R. Fyfe; YORKTON: C. Shaw, Dr. and Mrs. S. Houston; PRINCE ALBERT: J. Capusten, T. Capusten, Winnifred Woods, J. Johnson; MOOSE JAW: Mrs. F. B. Taylor, A. C. Ellis, Mrs. A. J. Rankin; DILKE: Mrs. S. R. Belcher, J. B. Belcher; FORT SAN: M. Callin; HEPBURN: Mr. and Mrs. R. Willems; INDIAN HEAD: Mrs. R. McLaughlin; ITUNA: Mrs. M. Brennan; KINDERSLEY: G. Fox; McLEAN: Mrs. J. Bray; MAPLE CREEK: Mr. and Mrs. G. MacMillan; MEATH PARK: Frank Sudal; MELVILLE: G. Anweiler; NAICAM: W. Yanchinski; NEUDORF: R. Elmore; SALTCOATS: Bill Horseman; SKULL CREEK: S. A. Mann, Mrs. K. Bennetto; SPIRIT LAKE: Joyce Gunn; TISDALE: E. Baines; WALLWORT: J. D. Turnquist.

Special guests from TORONTO—John Livingston; from EDMONTON—Mr. and Mrs. E. Jones, C. Hampson.

FINANCIAL STATEMENT 1958  
SASKATCHEWAN NATURAL HISTORY SOCIETY

INCOME:	
Membership dues .....	\$2,839.80
Department of Natural Resources Grant .....	1,100.00
Donations .....	30.00
Int. Bakers Dozen .....	366.48
Christmas Cards .....	353.75
Annual Meeting .....	138.25
Interest .....	16.75
	<hr/>
	\$4,845.03
EXPENSES:	
Printing (including three issues <i>Blue Jay</i> ) .....	\$3,003.15
Miscellaneous .....	152.21
Annual Meeting .....	126.00
Corps. of Comm. ....	47.85
Advertising .....	32.76
Postage .....	44.40
Typing .....	32.00
Honoraria .....	270.00
Bank Charges .....	2.36
Loss on Bonds .....	5.25
	<hr/>
	\$3,705.98
EXCESS OF INCOME OVER EXPENSES .....	\$1,139.05

Comparative Statement of Net Worth

October 1, 1958	
Current Account .....	\$1,356.30
Savings Account .....	637.87
Bonds .....	297.00
	<hr/>
	\$2,291.17
October 18, 1957	
Current Account .....	\$ 398.75
Savings Account .....	451.12
Bonds .....	302.25
	<hr/>
	\$1,152.12
INCREASE IN NET WORTH .....	\$1,139.05



# THE SASKATCHEWAN NATURAL HISTORY SOCIETY

## Officers October 1958 to October 1959

<i>Honorary President</i> .....	THE HON T. C. DOUGLAS, Premier of Sask.
<i>Past President</i> .....	FRANK ROY, 120 Maple Street, Saskatoon.
<i>President</i> .....	MANLEY CALLIN, Fort San.
<i>First Vice-president</i> .....	ROBERT NERO, Sask. Mus. of Nat. Hist.
<i>Second Vice-president</i> .....	ELWIN BAINES, Tisdale.
<i>Business Manager</i> .....	FRANK ROY, 120 Maple Street, Saskatoon.
<i>Treasurer</i> .....	ELMER FOX, 1053 Gladmer Park, Regina.
<i>Editor of the Blue Jay</i> .....	GEORGE LEDINGHAM, 2335 Athol St., Regina.
<i>Corresponding Secretary</i> .....	MARGARET BELCHER, Regina College, Regina.
<i>Recording Secretary</i> .....	ELIZABETH CRUICKSHANK, 2329 Athol St., Regina.

### *Directors:*

3-year term: Mrs. Betty Gerrard, Saskatoon; S. A. Mann, Skull Creek; Mrs. Marion Nixon, Wauchope; C. Shaw, Yorkton; M. Street, Nipawin.

2-year term: A. Capusten, Prince Albert; Dr. S. Houston, Yorkton; Dr. D. S. Rawson, Saskatoon; E. Symons, Rocanville; J. Walker, Moose Jaw.

1-year term: S. Francis, Torch River; Mrs. J. Hubbard, Grenfell; E. Brooman, Prince Albert; W. Anaka, Spirit Lake; D. Gilroy, Regina.

### *Presidents of Local Branches:*

Bruce Knox, Regina; Phil Pawluck, Yorkton; Ross Homer, Prince Albert; Frank Roy, Saskatoon; Frank Baines, Saltcoats; Carl Ellis, Moose Jaw; Frank Sudal, Garden River.

### *Chairmen of Committees:*

Conservation: F. G. Bard; Membership: R. W. Fyfe; Programme: C. Ellis; Publicity: Mrs. Rose McLaughlin; Publications: Dr. S. Houston.

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## Notice to Members

Printing costs per page for the **Blue Jay** have increased, and it is more important than ever that we strive for a larger circulation to meet these new costs. Please renew your subscription promptly and encourage other people interested in natural history to become members of the society. Do you have friends who would enjoy the **Blue Jay** as a Christmas gift?

## Memberships

All persons interested in any aspect of nature are invited to join the Saskatchewan Natural History Society. Membership dues per calendar year are: Sustaining, \$5.00; Regular, \$1.00. The **Blue Jay** is sent without charge to all members not in arrears for dues. Send your membership to the treasurer, Elmer L. Fox, 1053 Gladmer Park, Regina, Sask., Canada.

## Reprints

Reprints from articles printed in the **Blue Jay** may be ordered directly from Mid-West Litho, Saskatoon.

## Back Copies Wanted

In order to complete an important file, we are particularly anxious to obtain a copy of Vol. XI, No. 3. We should also be glad to get Vol. IX, No. 2, 3, 4 and Vol. XI, No. 4 since we have no additional copies of these.



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"Season's Greetings"

Photo by the Keresztes

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